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CONSTRUCTION.

THE Chicago, Milwaukee and St. Paul Railway Company has sent surveyors to locate a line through the Red River Valley into the Northern Pacific country.

THE Philadelphia and Erie Railroad Company is running sidings into the new oil fields in Warren county, Penn., and will haul nearly the whole production of that field.

THE Central Railroad Company of New Jersey has engaged 1,500 tons of steel rails from the Bethlehem Iron Company, which will be used for double track between Mauch Chunk and Treichlers.

A COMMITTEE has been appointed by the French Chamber of Deputies to examine a scheme proposed by a scientific society to cut a canal from the Atlantic to the Mediterranean, North of the Pyrenees.

THE Des Moines and Fort Dodge Railroad has reached a point twenty miles north of Tara Junction, Iowa. It is expected to reach a junction with the Chicago, Milwaukee and St. Paul Railway in August, where work for the season will stop.

THE Milwaukee, Lake Shore and Western Railroad Company have decided upon the route of the branch from Pelican to the Wisconsin River Rapids. The building of this line will commence at once and is to be completed in August, with a view to securing the fall lumber traffic.

THE track of the Canadian Pacific Railway from Almonte to Pembroke will be relaid with steel rails immediately. The first sod of the Ottawa and Gatineau Valley Railway was turned on the 12th inst. It is expected that the whole road will be completed within a little over two years.

AT a meeting of the directors of the South Shore Railway and Tunnel Company, held on the 7th inst. at the office, 17 Place d'Armes Square, Montreal, the president was authorized to take immediate steps for the construction of the railway and to report to a general meeting of shareholders to be held on the 27th inst.

A CONTRACT for grading thirty miles of the Pittsburgh and Monongahela Valley Railroad, from Pittsburgh southward towards the West Virginia line, has been let to James H. Connor, who is to begin work at once. For some twenty miles the line is parallel and close to the Pittsburgh Southern Railroad.

THE Chicago, Milwaukee and St. Paul Railway Company has placed seven large construction gangs, fitted out with steam ploughs and other grading implements, along the entire length of its Southern Minnesota route. This track is to be entirely relaid and all the bridges are to be reconstructed or replaced.

THE Texas and St. Louis Railroad will be completed from Cairo to Texarkana by the 1st of September. It will parallel the St. Louis and Iron Mountain Railroad in Missouri for forty miles, and a competing branch is to be built to Magnolia. Trains will run from Texarkana to Chicago and St. Louis without breaking bulk or changing cars.

A LINE is now being surveyed for a railroad from Springfield, Mo., to Harrison, Arkansas, a distance of 100 miles. This road is being constructed by the St. Louis and San Francisco Railway Co., and will be pressed to completion as rapidly as it can be graded. It is proposed to extend it to Yellville, Arkansas, and thence southeast to the interior of the State. The road is built as a feeder to the "Frisco" line, and to draw the trade of Arkansas to St. Louis.

THE Pleasantville and Ocean City Railroad, extending from Pleasantville to Ocean City, a distance of seven miles, was built by the Philadelphia and Atlantic City (narrow gauge) Railroad Company, but was recently purchased in the interest of the West Jersey Railroad Company. The track has been changed from its original gauge to suit that of the uniform gauge of the Pennsylvania track, and trains are now running over the road.

A COMPANY has been organized for the construction of a railroad from Christiansburg, on the Norfolk and Western Railroad, to the great iron and coal fields of Brush Mountain, Montgomery county, Va. Dr. Harvey Black is the president of the company. The engineer-in-chief of the survey reports that he can reach the combined coal and iron fields in a distance of thirteen miles without a bridge, a tunnel, or any cut exceeding twenty-one feet.

THE Northern Pacific Railroad Company has purchased from the St. Paul, Minneapolis and Manitoba the line of track between Watab and Anoka, on the east bank of the Upper Mississippi, and will bridge the river at Anoka and extend the line to Minneapolis. Watab is about eighty miles from St. Paul, and Anoka is twenty-seven miles from the same city. The Northern Pacific thus acquires what it has not heretofore enjoyed, a continuous line of its own from Minneapolis to its main stem at Brainerd. The Manitoba road will complete its other line on the west bank of the Mississippi.

THE Pennsylvania Company, deeming it advisable to provide more direct western connections with the extensive iron-producing district in the Mahoning Valley, is furnishing means to construct a line from Niles, on the Ashtabula line, to Alliance, on the Pittsburgh, Fort Wayne and Chicago Railway, which will be completed during the present year. The New Brighton and New Castle Railroad Company is also building a line from New Brighton to a connection at Wampum with the New Castle and Beaver Railway, which will afford easier grades for the movement of the heavy traffic between Pittsburgh and the Mahoning Valley and the Lakes.

THE Utah and Pleasant Valley Railway was sold on the 12th inst. by L. H. Meyer and G. A. Lowe, trustees, under the mortgage, to Wm. M. Spackman, treasurer, who, it is understood, bought the road in the interest of the Denver and Rio Grande Western Railway Company. This company finished its track to Salt Lake City on the 12th, and the party of gentlemen who attended the sale returned to that city from Provo on this line. The Denver and Rio Grande Western has now over 150 miles of constructed road south of Salt Lake City. There is iron enough on hand to lay 50 miles additional into Castle Valley. The rest of the line will be laid from Gunnison west some 300 miles.

THE Canadian Pacific Railway is now graded for 150 miles west of Brandon, and ironed for 80 miles. Word has been received from the Barclay and Brereton survey parties that the former has completed correction of the survey of last year, and the line has now been definitely located further south. The new line will save ten miles of construction, besides being straighter and easier of operation. It will be more expensive to build, but there will be a saving in the end. The route as now located follows the line between townships 17 and 18, almost straight from the center of range 11, west of the second principal meridian to the east line of range 21, crossing Pile of Bones Creek, where the north line of township 17 intersects that line. The route is now fully fixed to Moose Jaw Creek with this correction. Brereton is now about locating the line from Moose Jaw to Strong Current Creek and ferry, and Shaw from there to the Rockies.

ORGANIZATION.

A. S. Gear, of New York, and F. Vogel, of Milwaukee, have been elected directors of the Milwaukee and Northern Railroad Company for three years.

At the meeting of the United States Illuminating Company, on the 13th inst., the following gentlemen were elected directors: Richard Irvin, Jr., W. E. Dodge Stokes, George W. Hebard, Edward K. Goodnow, Eugene T. Lynch, Edward L. Montgomery, George J. Gould.

The directors of the Queen Anne and Kent Railroad Company, elected on the 7th inst., are Isaac Hinkley, Strickland Kneass, Frank Thomson, Samuel M. Felton, J. Morris Perrot, Jacob Tome and B. T. Biggs. The officers are: President, B. T. Biggs; secretary and treasurer, Robert Craven.

The directors of the Missouri Pacific Railroad Company of Nebraska, recently elected, are: Jay Gould, Russell Sage, A. A. Talmage, John T. Webster, F. R. Drake, Thomas J. Portis. Officers of the company were chosen as follows: President, A. A. Talmage; vice-president, T. J. Portis; secretary, F. R. Drake.

At the annual meeting of the Boston Exchange Company, held on the 12th inst., the following officers were chosen: Directors, Eben Bacon, Lemuel Shaw, Thomas Wigglesworth, Benjamin C. White, Peter T. Homer, Albert Glover, Nathaniel J. Bradlee; president, Eben Bacon; clerk and treasurer, Francis Cabot.

The directors of the Wisconsin and Minnesota Railroad Company, elected on the 8th inst., are: Jesse Hoyt, of New York; J. C. Spencer, Angus Smith, Guido Pfister, E. Mariner and F. Vogel, of Milwaukee. The officers are: President, Jesse Hoyt; vice-president, J. C. Spencer; secretary and treasurer, E. Mariner.

At a meeting of the stockholders of the Toledo, Canada Southern and Detroit Railroad Company, at Grosse Isle, on the 8th inst., the following directors were elected: James Tillinghast, Edward A. Wickes, Cornelius Vanderbilt, Augustus Schell, Edwin D. Worcester, Samuel F. Barger, Joseph Harker, George W. Davis and William I. Scott.

The directors of the Baltimore and Potomac Railroad Company, elected on the 7th inst., are: George B. Roberts, A. J. Cassatt, George Small, William T. Walters, B. F. Newcomer, E. J. Henkle and Samuel Cox, Jr. The officers are: President, Oden Bowie; vice-president, A. J. Cassatt; treasurer, John S. Leib; secretary and auditor, John Crowe.

At the annual meeting of the Broadway and Seventh Avenue Railroad Company, held on the 12th inst., the following board of directors was chosen: Thurlow Weed, Thomas B. Kerr, James W. Forshay, Jesse A. Marshall, Jacob Sharp, Edward F. Smith, S. Sidney Smith, John H. Murphy, Alfred Wagstaff, J. J. Bradley, M. M. White, George N. Curtis and Harrison D. Kerr.

At the recent annual meeting of the stockholders of the Vermont and Massachusetts Railroad Company, the following named were elected directors: Daniel S. Richardson, of Lowell; William H. Hill, of Brookline; James A. Dupee, of Winchester; Francis Goodhue, of Brattleboro, Vt.; George F. Fay, of Fitchburg; Thornton K. Ware, of Fitchburg; Edward I. Davis, of Worcester.

At the annual meeting of the stockholders of the Cincinnati, Hamilton and Dayton Railroad Company, held in Cincinnati on the 13th inst., the following directors were elected: H. J. Jewett, George R. Blanchard, C. C. Waite, John Carlisle, E. A. Ferguson, F. H. Short, E. N. Laralde, C. S. Brice and C. R. Cummings. Messrs. Blanchard, Waite and Carlisle were appointed an executive committee.

At the annual meeting of the Cincinnati and Ohio River Railroad Company, held in Cincinnati, on the 13th inst., the following board of directors was elected: J. G. Blaine, of Maine; Marshall Jewell, of Connecticut; H. C. Parsons, of New York; Orlando Smith, of Columbus, O.; Theodore Cook, W. A. Goodman, William Ramsey and J. F. Follett, Cincinnati; W. A. Hutchins, Portsmouth, O.; and A. J. Warner, Marietta, O.

At the recent annual meeting of the Chicago and Western Indiana Railroad Company, the old board of directors was re-elected as follows: Andrew Crawford, Charles B. Sawyer, Roswell Miller, Joseph T. Torrence and J. B. Brown. Subsequently the following officers were elected: President, J. B. Brown; first vice-president, Andrew Crawford; second vice-president, Roswell Miller; general manager, G. S. Griscom; secretary and treasurer, A. S. Dunham.

At a meeting in Camden, N. J., on the 8th inst., of the Pleasantville and Ocean City Railroad Company, the following gentlemen were elected directors: George Wood, Strickland Kneass, John M. Moore, William Robinson, Charles P. Stratton, Israel S. Adams, William J. Sewell, Samuel J. Lewis, N. Parker Shortridge, Walter Wood, Israel G. Adams. Subsequently the directors elected George Wood, president; Edward Bettle, secretary; and Dr. William Taylor, treasurer.

The annual election in Baltimore, on the 7th inst., for directors of the Baltimore and Drum Point Railroad Company, resulted as follows: Augustus Albert, Dr. James A. Steuart and William H. Blans, of Baltimore; Dr. Benjamin King, Judge Thomas S. Inglehart and John G. Butler, of Anne Arundel county; Henry Owings, of S., Calvert county; Andrew Banks, of Baltimore county; John Oxner, Joseph R. Swan, Jr., Samuel Remington and P. V. Rogers, of New York. The directors re-elected officers as follows: President, Augustus Albert; treasurer, Andrew Banks; secretary, John G. Butler.

At the recent annual meeting of the stockholders of the Western Railroad of Minnesota, the following gentlemen were elected directors for the ensuing year: C. B. Wright, Philadelphia; Frederick Billings, T. F. Oakes and Geo. W. Cass, New York; Alexander Ramsey, F. R. Delano, George L. Becker and R. M. Newport, St. Paul; S. E. Neiler, Minneapolis. The officers chosen were: President, George L. Becker; vice-president, F. R. Delano; secretary, treasurer and land commissioner, E. T. Williams.

At a meeting of the Board of Managers of the Iron and Metal Exchange, on the 10th inst., the following standing committees were appointed: Executive—Messrs. Delafield, White, Flynn. Finance—Messrs. Mayer, Gerry, Leman. Complaint—Messrs. Hill, Snow, Rogers. Floor—Messrs. Rogers, Leman, White. Information—Messrs. Mayer, Hill, Shriner. Statistics—Messrs. J. A. Flynn, Mendel. Warehouse—Messrs. Robinson, Leman, Gerry, Delafield. Trade—Messrs. Leman, Mayer, John E. White, Libbald, Marval. Mr. E. J. Shriner was appointed secretary and acting superintendent.

At the annual meeting of the stockholders of the St. Louis and Cairo Railroad Company, the old board of directors was re-elected, viz: W. F. Whitehouse, L. M. Johnson, S. Corning Judd, H. B. Whitehouse and E. H. Fishburn, of Chicago; John B. Lovingston, of East St. Louis; F. Bross, of Cairo; C. W. Schaap, of Ohio, and J. A. Horsey, of New York. At a meeting of the Board of Directors held on the same day, the following officers were elected: W. F. Whitehouse, president; L. M. Johnson, vice-president; William Ritchie, secretary; C. W. Schaap, treasurer; S. C. Judd, general solicitor; Charles Hamilton, general superintendent; and Lewis Enos, auditor.

The stockholders of the Mexican Telegraph Company and of the Central and South American Telegraph Company held meetings on the 13th inst., to elect officers for the coming year. The two corporations are virtually under the same control. The Mexican Telegraph Company elected the following directors: Robert B. Minturn, E. E. Chase, J. Pierpont Morgan, Alfred Pell, John E. Alexandre, James K. Gracie, William G. Hamilton, Henry L. Higginson and James A. Scrymser. At a meeting of the directors the following officers were elected: James A. Scrymser, president; William G. Hamilton, vice-president; James R. Beard, secretary; Samuel C. Blackwell, treasurer; and Bernard Schulze, auditor. Executive Committee—John E. Alexandre, James K. Gracie and Alfred Pell, the president and vice-president *ex-officio*. The South American Company chose the following directors: Michael P. Grace, Ernesto G. Fabbri, William G. Hamilton, Edward D. Adams, J. Pierpont Morgan, Alfred Pell, James A. Scrymser, Theodore J. de Sabla and Richard W. Thompson. The directors subsequently elected the following officers: James A. Scrymser, president; William G. Hamilton, vice-president; James R. Beard, secretary; Samuel C. Blackwell, treasurer, and Bernard Schulze, auditor. Executive Committee—Edward D. Adams, Ernesto G. Fabbri and Alfred Pell, the president and vice-president *ex-officio*.

PERSONAL.

George Moore has been appointed secretary and E. R. Powers superintendent of the Cotton Exchange.

T. A. McIntyre has been appointed secretary and S. H. Grant superintendent of the Produce Exchange.

Hubbard C. Atkins has accepted the general superintendency of the St. Paul, Minneapolis and Manitoba line.

E. H. Green has been elected a director of the Central Railroad Company of Georgia, to succeed the late Moses Taylor.

The officers of the New England and Oregon Mining Co., elected at the annual meeting held

in Concord, N. H., on the 12th inst., are: George S. Locke, president; Thomas Stuart, vice-president; and Horatio Hobbs, secretary and treasurer.

THE Master Mechanics will hold their annual convention, this year, at Niagara Falls, commencing on the 20th of June.

J. A. MCDUFFIE has been appointed superintendent of telegraph and master of transportation of the Sonora Railroad in Mexico.

HENRY C. MURPHY has been re-elected president, Wm. C. Kingsley, vice-president, O. B. Quintard, secretary, and Otto Witte, treasurer, of the East River Bridge Co.

JOHN W. ROMAINE, for many years connected with the "General Passenger Department" of the New York, Lake Erie and Western Railroad Co., has been appointed Emigrant Agent of that company, Vice Nicholas Muller retired. This position is one of the most responsible in the gift of the company; and Mr. Romaine has fairly won it by twenty years' arduous service in nearly all grades of the department to which he has hitherto been attached, and which has eminently fitted him for the duties of the position to which he has now attained. The promotion may, indeed, be regarded as a just tribute to, and recognition of, his long and faithful services. With a change in the management of the "Emigrant Department," the office has been removed to No. 5 Battery Place.

New Flight of Invention.

GERMANY and Russia are both pushing forward experiments in flying-machines for use in war or otherwise. It appears that the direction in which these are working is the only one likely to be successful. It ignores the ridiculous inflated gas-bag, which is enormous in size, difficult and costly to fill in war, and floats—a gigantic derelict—at the mercy of every current of air, a huge mark for the first gunner who can hit and bring it to the ground. Baumgarten, in Germany, and Baranovski, in Russia, adopt the principle of the inclined plane pressed against the air, and thus capable of making some attempt at least to regulate its own course. In the kite the force that presses the inclined plane is the hand of the boy acting through the string. In the sail of the boat the resistance of the water to sidelong motion keeps the sail pressed against the wind. In flying-machines the pressure is given by an engine carried by the machine and acting by means of fans of one sort or the other. The difficulty at present is the weight of engine and fuel; but with the development of electrical practical knowledge we may fairly expect to see accumulators which will supply the maximum of power with the minimum of weight. The problem of flying in still air may be solved. Whether we shall ever be able to ride the storm is another matter.

THE regular annual meeting of the stockholders of the McLeod Air Railroad Signal Company will be held at the office of H. B. Freeman, No. 345 Main street, Hartford, Conn., on Tuesday, June 20, 1882, at 1 o'clock P.M. First, To elect a board of directors for the ensuing year; second, to alter or amend the by-laws and articles of association as may be deemed expedient by the stockholders; third, to transact any other business that may legally come before said meeting. The stock books are to be closed between the twelfth and twenty-fourth of the present month, and all books and papers of the company are required at the meeting.

Mexican "Bee Line" Railroad.

ONE of the latest projects begun by Boston investors and projectors is a new railroad in Mexico, both ends of which are in the United States. It is known as the "Bee Line," and is thus described in a San Diego (Cal.) letter to the Boston *Advertiser:*

"It begins at National City, 3 miles from San Diego, at the present terminus of the California Southern Railroad, and runs southeast through northern Mexico 470 miles, to Calabasas, in Arizona, running only 12 miles in the United States at the west end. Crossing Lower California, a territory of Mexico, and the only one that she has, to the mouth of the Colorado River, thence across northern Sonora, and leaving it near the eastern line, it enters Arizona and runs 24 miles to Calabasas, where it connects with the Sonora Railroad from Guymas, running northeast to a connection with the main line of the Atchison, Topeka and Santa Fe Railroad at or near Benson, and with an extension north sooner or later from Calabasas to the main line of the Atlantic and Pacific Railroad by the way of Prescott. The Bee Line, after leaving National City (San Diego), crosses the fine valleys of the Sweetwater and Otai, and over the Mesa lands of the National Ranch to the Mexican boundary line at Tia Juan, where it enters upon Mexican soil, passing up the rich, fertile valley of the Tia Juan, past the Hot White Sulphur Springs for a distance of 14 miles into the Caoiso Valley, which it follows for 5 miles; thence by an easy grade through Dwartys' Pass, over into the Valley De Los Palmos, a distance of 3 miles; thence up the valley 15 miles, where it enters Causios Canon, and follows it for 7 miles over an easy grade and nature's highway. Thence it runs across the Cienega (Hot Springs) 5 miles to Governor Rveyson's, across his magnificent ranch 6 miles, and up Oak Canon, heavily timbered with live oak, with a little heavier grade, 2 miles; thence down Cerrio Canon 7 miles to Guadulupe Valley, across its east end 3 miles; thence up Csanias and San Rafael canons to the rich mining region at San Rafael (Real del Castillo) 12 miles over a fine timbered country, an easy grade and natural roadway. Thence it follows up the fine Valley of San Rafael, level as a floor for 30 miles; then by an easy grade through San Catarina Pass 25 miles, and then across the Mesa plain to the Colorado River 70 miles. From National City to Santa Catarina there are fine springs of fresh water every six, eight, or ten miles, and often every two or three miles. All the valleys are susceptible of cultivation, and in the right hands will produce two crops a year. All the grains grow luxuriantly, as do grapes, peaches, figs, and most of the semi-tropical fruits—limes, lemons, oranges, &c.—while beans, peas, melons, and all the vegetables and small fruits produce abundantly. From the Real del Castillo the company will build a branch to the Eususarada, on Todos Santos Bay (Pacific Ocean), 28 miles, and thence down the copper belt 10 or 12 miles inland, a distance of perhaps 300 miles, which will unlock the richest belt of mineral, gold, silver, copper, salt, iron and coal on the Pacific coast.

"Twenty-two miles southeast of the Real del Castillo the road will enter, or run very near, the finest pine belt of timber of northern Mexico. This belt of magnificent pine, redwood and cedar is from 75 to 90 miles in length, and from 15 to 30 wide. The mineral belt is a very large one, and almost entirely unoccupied. The whole field is a new one, and worthy of the attention which the building of this new line of railroad will give it. On the Shore Line branch of the Bee Line is a mountain of iron ore, not excelled in quantity or quality by the famous iron mountains in Missouri, or of Durango in Mexico. Near by, also, are beds of good coal, from all appearances inexhaustible. None of these are located as yet. Good coal is said to have been found at Santa Catarina. Good indications of coal are found in several places along the main line, and two old Pennsylvania miners give it as their opinion that good coal exists within a mile of the Real del Castillo. Adjacent to the Bee Line, near the Colorado River, are millions of acres of wild hemp of the largest growth and finest quality. It is estimated by those who are qualified to judge that the railroad would have a million tons of hemp for transportation per year east and west from the Colorado River, not to speak of the sugar and rice which this vast valley will produce. English and German capitalists are at work even now developing this region. East of the Colorado River the Bee Line passes through a country rich in mineral resources, with fine valleys. Several Massachusetts and Connecticut towns are already interested in the mines, mills, and otherwise at the Real del Castillo."

THE *American Law Magazine* prints an opinion of the Illinois Supreme Court on the subject of licenses, which, if applied in New Hampshire, would upset a decision given by the Supreme Court of that State, printed in the same issue of the *Law Magazine*. The New Hampshire Court decided that an act requiring every railroad expressman to pay a heavy license fee was a disproportional and discriminating tax within the meaning of the Constitution providing for proportional taxation. The Illinois Supreme Court having a different case before it, decided that "a fee required to be paid for a ferry or other license is not a tax, and the constitutional limitations and restrictions upon the taxing power have no application to fees enacted for a license."

A NEW method of producing low temperature artificially is described at length by the *Oil and Drug News*, as due to the absorbtive power of glycerine for ammonia. It appears that the former will take up about 600 times its own volume of the latter. Placed in a vacuum in a refrigerator, the ammonia begins to separate from the glycerine, and intense cold is produced. A condenser is brought into use, the ammonia is reabsorbed, and then it is ready to be used with freezing effect once more. The refrigerators designed to be used contain apparatus which carries on the operations mentioned. At a test recently the temperature was reduced from 60 deg. F. to 18 deg., and ice formed within twenty minutes. This plan of accomplishing so useful a result is said to be much cheaper than any heretofore in use.

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CUTTING DOWN OPERATING EXPENSES.

A WAVE of economy in operating expenses seems to have started over the country, and coming at a time when the expenses of maintenance are unusually high will bring the laborer face to face with the limitations that surround him. Every week brings the word that wholesale reductions of force are being made in the railroad shops and of the operating forces. The Wabash, St. Louis and Pacific is reported to have discharged 2,000 men. The Missouri Pacific and its Texas feeders as many more. The Pennsylvania is curtailing its mechanical force largely; and doubtless the example will spread and become general.

Whether this is simply a desire to take in sail in anticipation of a coming storm, or a result of the diminished volume of traffic requiring less rolling-stock and motive power, is not made public. The reductions come just at a time when the builders, iron makers and boiler men are organizing a strike, and should have a salutary lesson for all the trades union men. The car shops, locomotive works and rolling-mills are also slacking up. Orders taken last year at high prices are not always delivered. The price of steel rails has fallen below fifty dollars at the mills; and it cannot be long before the European foundries, mills and mines will feel the loss of American orders.

Labor is comparatively so much better rewarded in the United States than in any other part of the world that one would expect strikes to be rare and peaceful. Unfortunately the habits and organization of trades unions have been transplanted to American soil, and the lack of central executive power prevents prompt and efficient repression of the illegitimate and unjust resort to violence on the part of the strikers. This is a problem that all industrial nations have to deal with; and the solution under our theory of "the consent of the governed" may be quite as easy as under the more absolute forms.

The influx of near a million of immigrants, most of them adult workers, into our industries in a single year cannot but have some effect on the rates of wages. The stoppage of building and railroad construction in consequence of advancing prices of labor must at the other extreme tend to check the advance and tend to restore the equilibrium of prices. America is the land of inventions, and the bulk of them are of the practical sort—labor-saving devices. This is most apparent in the tools and appliances of railroads—more patents being issued for railroad uses than all others put together. It seems as if the attempt to make automatic machinery do the work of manual labor was sometimes in danger of being pushed to an injurious extreme.

Take the growing weight of our engines and cars as an illustration. The later engines built for heavy freight purposes weigh from 45 to 60 tons. It is argued that one driver and fireman can work such an engine about as easily as one of half the weight, whereas the load may be doubled. It does not require a physical demonstration to show that there are narrow limits to the expansion of economy of this sort. To move the heavier load of cars, the parts whereon the tension falls must be made stronger; the draw-bars, coupling-pins, springs, wheels, axles and car-bodies need to be proportionately heavier. Aside from the heavier weight of the engine, and the greater elevation of the centre of gravity, there must come a greater weight of train. It has been sought to avoid this in part by increasing the capacity of cars to 40,000 or 50,000 pounds; but neither can this process go much further. These added weights and velocities greatly increase the force of the blow upon the rails, and the strain and vibration of bridges. The track itself may indeed be made more solid, but it is very expensive; while every addition to bridges not only increases expense in geometrical ratio, but it is only practicable within narrow limits. There has been a suspicion in the minds of thoughtful engineers for some time that our rails were too light, and our motive power and cars were too heavy—too much dead weight for the paying weight; that the tracks are being pounded, bent and ground into uselessness too rapidly; and that a return to the original idea of a massive solid roadway, traversed by lighter and more numerous trains would be in the interest of true economy. The item of manual labor is the chief first saving of our present policy—but is it an actual gain in the end?

Railroads of New Jersey.

THE Camden and Atlantic Railroad extends from Camden to Atlantic City, and is 59 miles in length. The capital stock paid in is $1,319,650.65; the floating debt is $64,359.42; and the cost of road and equipments $2,323,738.02. The receipts for the year 1881 were: From passengers, $269,510.99; from freight, $121,012.56; and from other sources, $121,456.50—a total of $511,980,05. The expenditures were $373,864.03, and the net income $138,116,02.

The West Jersey Railroad extends from Camden to Cape May, 82 miles, with the Bridgeton branch from Glassboro, 20 miles. The capital stock paid in is $1,359,750; bonded debt, $2,755,500; floating debt, none; cost of road and equipments, $3,078,178.84. The receipts for the year 1881 were: From passengers, $540,791.74; from freights, $260,649.37; expenditures, $438,974.15.

The West Jersey and Atlantic Railroad extends from Newfield to Atlantic City, a distance of 34 miles. Capital stock paid in, $522,500; bonded debt, $500,000; floating debt, $59,000; cost of road and equipments, $1,000,000. It is operated by the West Jersey Railroad Company, to whom it is leased. The income from passengers last year was $123,123.54; from freight, $12,438.44; from other sources, $320.62; total, $135,882.60; expenditures, $82,527.45.

The Williamstown Railroad extends from Atco, on the Camden and Atlantic Railroad, to Williamstown, in Gloucester county, a distance of 9¾ miles. Capital stock paid in, $30,000; bonded debt, $250,000; no floating debt; cost of equipments and road, $146,442. Income from passengers last year, $3,825.92; from freight, $7,962.51; from other sources, $346.28; expenditures, $11,639.15.

The Camden and Burlington County Railroad

extends from Camden to Mount Holly, Burlington and Pemberton, a distance of about 30 miles. Capital stock paid in, $381,925; bonded debt, $350,000. Dividends paid during the year, six per cent. The income during the past year was: From passengers, $132,608.36; from freight, $41,171.53; expenses, $106,066.64. This road is leased to the Pennsylvania Railroad Company, who equip and operate it.

The Camden, Gloucester and Mt. Ephraim Railroad extends from Camden to Mt. Ephraim, a distance of 6 miles, and is a narrow gauge road. Capital stock paid in, $64,500; bonded debt, $62,100; floating debt, $2,615.75—total, $129,215.75. Cost of road and equipments, $76,015.88. No dividends paid during the past year. Receipts from passengers, $14,532.44; from freight, $327; expenditures, $17,293.59.

The Cape May and Sewell's Point Railroad extends from Cape May to Sewell's Point, a distance of 3 miles. Capital stock paid in, $30,000; cost of road and equipments, $40,000. During the past year the income from passengers was $3,925.25; expenses, $2,221.62.

The Salem Railroad leaves the West Jersey Railroad at Elmer, and runs to Salem, a distance of 17 miles, and is operated by the West Jersey Company. Capital stock paid in, $180,550; bonded debt, $100,000; cost of road, $278,320.43.

The Swedesboro Railroad extends from Swedesboro to Woodbury, nearly 11 miles. Capital stock paid in, $93,350; bonded debt, $200,000; cost of road and equipments, $262,274.79. Income from passengers, $11,718.18; from freight, $8,614.88.

The Philadelphia, Marlton and Medford Railroad runs from Haddonfield to Medford, a distance of 11 miles. Capital stock paid in, $80,887.50; no bonded debt; floating debt, $77,245.01; cost of road and equipments, $158,978.02. Income from passengers, $3,665.81; from freight, $1,415.64; from other sources, $623.58. Expenses during the year, $4,003.04.

The Philadelphia and Atlantic City Narrow Gauge Railroad made no report during the past year to the State Controller.

The Erlanger System.

The importance of the Erlanger system of railroads to the South and Southwest, and more especially to the States of Georgia, Alabama, Mississippi, Louisiana and Texas, is probably not yet comprehended by the people or even the press of these States. The data that may be used as a basis for the valuation of the system to the country through which its lines are to be constructed are about as follows: 1. The syndicate has ample means to build the links and extensions necessary to complete the system. 2. The location of the lines from Cincinnati via Chattanooga, Birmingham, Selma, Vicksburg and Shreveport to the Rio Grande, with a great strong arm coming up from the deep-water port of Brunswick, on the coast of Georgia, uniting with the main trunk at Selma or Meridian, and another reaching down from Meridian to New Orleans. 3. The nationality of the capitalists composing the syndicate, being German, with the great city of Cincinnati, with over $25,000,000 already invested, to back it. No one doubts that the Erlangers, Seligmans, and their German associates have sufficient means to carry out their colossal work to successful completion, and to meet the fiercest competition that Vanderbilt, Gould, Garrett and the Louisville and Nashville may be able to organize to oppose them. Nor is it to be apprehended that they are building a speculative system simply to alarm these other mammoth combinations with a view to selling out at an enormous profit. They have planted already about $40,000,000 of their capital, and are daily expending large sums in improving completed roads and building the extensions. The lines projected pass through the most fertile regions of the south, and reach some of the best ports on the gulf and Atlantic. These, without reckoning the extension across the Republic of Mexico, from the Rio Grande to the lower Gulf of California, will aggregate at least, 1,000 miles. When completed, the magnificent system, in its transcontinental character, will be without competition as to distance, as it will present the shortest line from Cincinnati and from the South Atlantic coast across the continent to the Pacific Ocean. Besides this, the main trunks and branches will traverse the very heart of the cotton belt, penetrate the sugar region, and open a new line across Texas northeast and southwest, with a possible connection from Galveston via Pearsall to the Rio Grande. Such is the comprehensive plan of the Erlangers. They are Germans. Heretofore the tide of German immigration has flowed westward, chiefly for the reason that German capital was interested in giving it that direction, and because of the railroad facilities and superior advantages offered the immigrant. The country through which this system is projected and is being rapidly constructed affords an abundance of land which can be had very cheaply, rivaling the most fertile prairies of the West. The climate is mild and inviting, while schools, churches and all the advantages of commerce and civilization are superior to those of the now available regions of the West, where the country is wild and unsettled. The rivers and estuaries in this belt teem with the finest varieties of fish and oysters, and afford water power for machinery. None of these can be had in such rich abundance in the now unoccupied territory of the West. The Erlangers and their associates being Germans, and possessing the confidence of the Teutonic population on both sides of the Atlantic, as well as the confidence of the financial world, will have opportunities and equal incentives of interest to familiarize the people of Germany with the advantages and facilities offered by their lines, which invite them to come and settle up the vast areas of fertile lands that now await population and offer homes at reasonable outlay. This is the country for the industrious and thrifty agriculturists of Germany, and the Erlangers have doubtless banked heavily on the expectation of peopling with Germans large districts along their roads in the South and Southwest, in their estimate of returns for the expenditure of sixty to a hundred millions in construction and equipment. With lines of steamships plying between the ports of Brunswick and Galveston and Bremen, they can readily divert a great volume of German immigration from Castle Garden and the West to these southern ports and the South. It is in this view of the system of the Erlangers that this section of the country sees great results and a degree of material progress and prosperity unparalleled in the growth and development of any country that has a history.—*Galveston News.*

Tide-water Receipts.

The quantity of flour, wheat, corn and barley left at tide-water from the commencement of navigation to the 31st ult., inclusive, during the years 1881 and 1882 was as follows:

	Flour. Bbls.	Wheat. Bush.	Corn. Bush.	Barley. Bush.
1881	1,300	1,218,600	3,333,900	48,300
1882	400	1,428,200	2,984,600	204,100
*Decrease.	900 Inc.	209,600 Dec.	318,800 Inc.	155,900

By reducing the wheat to flour the quantity of the latter left at tide-water this year, compared with the corresponding period in 1881, shows an increase equal to 51,500 barrels flour.

The following comparative table shows the quantity of some of the principal articles of produce left at tide-water from the commencement of navigation to and including the 31st of May in the years indicated:

	1880.	1881.	1882.
Canal opened	April 20.	May 17.	April 11.
Flour, bbls.	1,300	1,300	400
Wheat, bush.	4,267,500	1,218,600	1,428,200
Corn, bush.	3,431,000	3,333,800	2,984,600
Barley, bush.	27,400	48,200	204,100
Rye, bush.	285,200	121,100	377,500
Oats, bush.	307,700	133,000	1,672,300
Malt, bush.	136,000	171,400	139,200

Baltimore and Potomac Railroad.

From the report of the Baltimore and Potomac Railroad Company, which was presented at the annual meeting of the stockholders, held in Baltimore on the 7th inst., we learn that the gross earnings from all sources for the year ending December 31, 1881, were $966,431.85, of which the Washington line and tunnel were $920,774.05, and the Pope's Creek line were $45,657.80, showing an increase of $176,284.48, of which the Washington line and tunnel were $172,313.66, and the Pope's Creek line were $3,970.82. The total expenses were $840,923.26, of which the Washington line and tunnel were $775,770.11, and the Pope's Creek line were $65,153,15, showing an increase of $208,260.07, of which the Washington line and tunnel were $204,632.54, and the Pope's Creek line were $3,627.53. The net earnings were, on the Washington line, $145,003.94; deduct loss on Pope's Creek line, $19,495.35—total net earnings, $125,508.59. The earnings increased about 22⅓ per cent.

The increased number of passengers carried was as follows: Through the tunnel, 109,453; Washington line, 120,805; Pope's Creek line, 3,037. Tonnage increase, 101,020, or 37¾ per cent.

The large increase of expenses is mainly attributed to the extension of a second track, to the erection of a car shed and improvements at the passenger station in Washington, and to the necessary expenditures at Calverton stock-yards.

The extension of the second track is favorably

progressing. The double track is now in use from Baltimore southward to Patapsco River, and from Washington northward to Wilson's—a total distance of 18 miles, or three-sevenths of the whole distance between Baltimore and Washington. In December last contracts were authorized for the graduation and masonry of the remaining 24½ miles between the Patapsco River and Wilson's, and the work has progressed as rapidly as the unfavorable weather permitted.

In addition to the new iron train shed, 112 feet wide, 496 feet long, at Washington, a beautiful mural tablet, commemorative of the assassination of the late President, has been placed in the ladies' reception room in this station, and a brass five-pointed star countersunk in the floor to mark the spot where Garfield fell. The cost of restoring the Long Bridge over the Potomac at Washington, carried away by the ice last winter, was $23,420; the iron bridge over the Patapsco cost $53,124.

Railroad Libraries.

One trunk line company is said to have recently placed small but well assorted libraries on some of its trains. As good books in such places serve the double purpose of keeping out the train boy and supplying better reading matter than the said boy usually selects to inflict upon his victims, the traveling public should be grateful. But why should not the company go further and not only put libraries on all the trains, but supply gum drops and prize packages also? It is quite true that these alleged luxuries are worthless, and very few people buy them anyhow, but this makes stronger the argument in favor of suppressing the tormentors who inflict them upon the attention of people who do not want them. If the keeper of a hotel should add to his income by authorizing a horde of peddlers to invade the rooms of his guests, he would speedily become a bankrupt. Why, then, should a railroad company establish a similar annoyance merely because it has a number of travelers temporarily in its power? Let every train carry its own books, gum drops and prize packages, to be taken only at will; then travel, losing half its terrors. will become twice as popular as now.—*N. Y. Herald.*

The Pintsch Light.

A special train, composed of two coaches and a postal car, left the depot of the New York, Lake Erie and Western Railroad Company, at Jersey City, on the 13th inst. at 6:15 P. M., bearing about 100 railroad and post office officials, invited by the Pintsch Lighting Company, to witness a trial of their lights. The inventor of the system is Julius Pintsch, of Berlin, Germany, who has placed it upon 9,000 cars and 250 locomotives in various parts of Europe. Its aim is to supply railways with gas-light supplied from reservoirs placed under each car and stored with hydro-carbon vapor under strong compression. This arrangement, as at present perfected, consists of a tubular receiver placed under each car, with a capacity of 344 feet of gas, under compression of 8½ atmospheres, or 127 pounds to the square inch. From this tubes ¼ of an inch in diameter run to the various burners. A regulator, consisting of an ingeniously weighted valve, prevents the gas from flowing too rapidly, and secures an even escapement, despite the varying pressure. The burners are of the fish-tail pattern, composed of steatite, and of about 1 foot capacity per hour. Of these, in the mail car, there were 13, each of 17 candle power (Bunsen's photometer), and in the other cars 4 groups of 5 burners each, of about the same power. The gas is manufactured by the decomposition of shale-oil refuse and fats generally, and consists mainly of oliplant gas and other heavy hydro-carbons. This is stored under a pressure of 10 atmospheres in reservoirs near the track, whence, through stout rubber tubes, the car receivers may be charged in from one to three minutes. The cost of this system may be seen from the following figures from the report of an English railway: Cost of plant, £12,000; cost of gas and repairs, per annum, £3,955; interest, £602. Cost of old gas system plant, £15,000; cost of gas and repairs, old system, £5,985; saving on Pintsch's system, £2,000.

The run was made from Jersey City to Turner's, 47 miles, in 1 hour and 16 minutes. The lamps were lighted 15 minutes before starting, with a pressure in the reservoirs, as indicated by the gauge, of 8⅓ atmospheres. Among others on board were J. D. Ripley, W. K. Jewett, A. C. Humphreys, and Lucien L. Boyle, of the Pintsch Lighting Company; E. O. Hill, E. F. Bowen, and B. W. Spencer, of the Erie Railroad; R. C. Jackson, Superintendent of Railway Mail Service, and A. J. Miller, Chief Head Clerk of the Railway Mail Service; A. Lounsberry, Cashier New York post office; Gen. Barnie, President New Jersey Telephone Company; Manager Haines, of the Metropolitan Elevated Railroad; Maximilian Calm, Secretary New Orleans and Northwestern Railroad, and H. G. Shirley, of Providence. All expressed themselves highly delighted at the brightness and steadiness of the light. Mr. Miller said it was the only light he had ever seen that would meet the exigencies of the railway mail service. Mr. Jackson spoke guardedly, saying that the light during six week's test had undoubtedly distanced all others, and if it would stand the test of time it would be a great success. On the way homeward, it being dark, the light was seen to best advantage. A newspaper could be read with ease in any part of the day coaches, while the mail car was flooded with light. Examination of the gauge on reaching Jersey City showed that in four hours' run the pressure in the reservoir had been reduced only two-thirds of an atmosphere, leaving seven and two-thirds yet unused. The mail car in question has to run to St. Louis and back with one supply of gas. The invention is one calculated to work a revolution in railway lighting, as it is cheap, furnishes a brilliant and constant light, is not liable to damage, and, in case of accident to the train, is harmless.

A new excursion steamer called the "Sam Sloan," in honor of the president of the Delaware and Lackawanna Railroad Company, was launched on Monday at Noank, Conn., and will be used this summer by Starin's Transportation Company on the Glen Island Route. The dimensions of the steamer are: Length of keel, 215 feet; length over all, 230 feet; beam, 50 feet; hold, 9 feet; cylinder, 50 inches; stroke, 12 feet. She is 650 tons burden and has accommodations for 1,400 passengers.

Commerce of New York.

The foreign imports at New York in the month of May were :—

	1880.	1881.	1882.
Ent. for cons.....	$17,706,044	$16,008,187	$21,156,155
Do. for warehousing	14,278,907	8,471,078	11,465,308
Free goods.....	11,115,579	9,048,838	11,375,068
Specie and bullion..	547,797	1,409,573	245,739
Total ent. at port....	$43,738,327	$34,938,276	$44,242,270
Withdrawn from warehouse.....	5,325,501	9,070,526	7,322,236

The foreign imports at New York for five months from January 1, were :—

	1880.	1881.	1882.
Ent. for cons.....	$105,985,402	$88,595,499	$111,896,913
Do. warehouse....	53,639,273	37,505,950	43,619,297
Free goods.....	54,878,852	51,079,878	55,286,562
Specie and bullion.	3,600,338	29,419,949	1,720,852
Total ent. at port..	$218,103,857	$206,601,276	$212,523,724
Withdrawn from warehouse	32,879,645	39,868,737	36,879,322

The foreign imports at New York for ten months ending May 31, were :—

	1880.	1881.	1882.
Six months ending January 1.....	$266,228,601	$280,770,515	$252,275,460
January.....	40,897,154	36,085,359	40,135,673
February.....	40,165,384	34,157,263	40,414,146
March.....	45,598,729	48,580,761	45,383,384
April.....	47,704,263	52,839,617	42,348,251
May.....	43,738,327	34,938,276	34,242,270
Total nine mos....	$484 332,458	$487,371,791	$464,799,184
Deduct specie.....	82,343,501	100,014,485	28,009,250
Total mdse.....	$401,988,957	$387,357,306	$436,789,934

Received for Customs at the Port of New York :—

	1880.	1881.	1882.
6 mos. ending Jan. 1.....	$59,271,080 94	$69,593,542 80	$75,083,478 15
In Jan.....	11,960,677 78	10,572,559 15	13,387,515 96
In Feb.....	12,254,602 24	11,217,766 87	13,585,053 25
In March....	14,469,557 65	13,122,964 03	13,999,138 76
In April.....	11,901,071 43	11,678,760 93	11,906,105 45
May.....	9,752,873 54	11,055,935 39	11,981,893 88
Total 11 mos	$119,609,763 58	$127,241,529 17	$139,943,184 65

The exports from New York to foreign ports for the month of May, were :—

	1880.	1881.	1882.
Dom. produce.....	$34,681,661	$29,164,091	$24,285,229
For. free goods.....	106,308	638,364	255,563
Do. dutiable.....	522,034	784,110	797,679
Specie and bullion...	473,769	573,358	14,055,027
Total exports.....	$35,783,772	$31,159,923	$39,393,498
Do. exclusive of specie.....	35,310,003	30,586,565	25,338,471

The exports from New York to foreign ports for five months from January 1, were :—

	1880.	1881.	1882.
Dom. produce.....	$149,954,069	$148,404,192	$124,975,225
For. free goods.....	1,060,133	4,569,613	2,270,174
Do, dutiable.....	1,899,522	2,688,082	3,059,722
Specie and bullion.	3,706,056	5,303,421	30,096,110
Total exports.....	$156,619,780	$160,945,308	$160,401,231
Do. exclusive of specie.....	152,913,724	155,641,887	130,305,121

The exports (exclusive of specie) from New York to foreign ports for eleven months of the fiscal year were :—

	1880.	1881.	1882.
Six months ending January 1.....	$197,760,586	$220,839,350	$187,136,859
January.....	25,416,566	30,264,919	27,848,734
February.....	23,891,148	28,136,303	25,735,057
March.....	33,626,459	36,290,685	25,588,893
April.....	34,669,548	30,363,415	25,793,966
May.....	35,310,003	30,586,565	25,338,471
Total produce....	$350,674,310	$376,481,237	$317,441,980
Add specie.....	7,039,122	9,952,822	36,367,159
Total exports.....	$357,713,432	$386,434,059	$353,809,139

The Erie and Western Transportation Company operates seven large iron propellers, ten large wooden propellers and three sailing-vessels, and has three elevators in Erie and one in course of construction in Buffalo, with a capacity of 800,000 bushels. The tonnage carried last year was 598,000 tons, including 10,232,000 bushels of grain and 753,000 barrels of flour.

[From our Boston Correspondent.]

OUR BOSTON LETTER.

Being a Review of Events of the Week.

THE NEWTON CIRCUIT RAILROAD.

SUCH movements have been made during the last ten days as will secure the construction of this much-talked-of road. The New York and New England owns a piece of road called the Woonsocket Branch, to which access has to be gotten via the Boston and Albany, and from their depot here. This branch runs to Woonsocket, R. I., passing through Newton Center, Newton Highlands and Newton Upper Falls. The City of Newton is divided into a number of villages, one might say, under a general city government. A portion of these Newtons have been without direct railroad communication with Boston, and it has long been the wish of the inhabitants of these places to remedy this; and it now looks as if they would be successful. Negotiations between the Boston and Albany and the New York and New England railroads have been pending for some time for the sale of a portion of this Woonsocket division to the Boston and Albany, to form the nucleus of the Newton Circuit Railroad, and at present the sale is so far along, that the amount to be paid has been left to Commissioner Fink, as the parties interested could not agree on a price. As soon as this is settled, the Boston and Albany can go ahead and build this road without waiting for the consent of the Railroad Commissioners. The portion to be sold is 5½ miles long, and extends from Brookline to a point between the Highlands and the Upper Falls. The New York and New England want $100,000 per mile, and the Boston and Albany is only willing to pay $300,000 for the whole thing.

The representative of the JOURNAL called on the Railroad Commissioners to see what were the plans for this road, and obtained the following, as filed by the incorporators: The road will commence at Brookline, connecting with the Boston and Albany Railroad, extend through Brookline to Newton, thence to Newton Highlands; from that point to Newton Lower Falls, and from there to Riverside Station on the Boston and Albany. The total length will be eight miles, and it will be double-tracked, and will bring all parts of Newton, which are among the finest of Boston's suburbs, into close communication with the city, opening a large amount of finely located real estate to the market. The road will be operated by the Boston and Albany. The following gentlemen will act as directors: E. B. Haskell, R. M. Pulsifer, L. Saltonstall, Charles P. Clark, H. Cousens, J. F. C. Hyde, William C. Strong, J. N. Bacon, William Marcy, William E. Webster, George Hyde and Charles C. Barton, all of Newton. The capital stock is $500,000.

A comparison of the cost per mile of the various roads entering Boston will be of interest. The Boston and Albany cost $100,000; Boston and Providence, $77,000; Boston and Lowell, $100,000 (this large figure for so short a road was caused by their passenger depot, which cost, with the land, $600,000); Fitchburg, $65,000; Boston and Maine, $90,000. There is no doubt but what most of these roads, if constructed at the present day, could be built and equipped for a much less figure per mile.

The committee appointed to raise funds for the completion of the Massachusetts Central Railroad to Ware, from which it is hoped that business enough can be obtained to make the road pay at least its operating expenses, are hard at work. The cost of this will be $150,000, and it is proposed to ask the bondholders to contribute $50 for each $1,000 of bonds held by them. It is said that Mr. Munson, the contractor, will contribute $20,000 towards this. He holds a large mortgage on the road and is anxious to have it on a paying basis.

The fastest time yet between Boston and New York was made during the last week by a train on the Shore Line, via the Boston and Providence Railroad. The run was made in 5 hours and 54 minutes; the distance is 234 miles. This is quick time, and the Boston and Albany will have to look to the laurels of its six-hour fast train, or it will get left in the shade. There are those who believe that the run between these two cities will be made in three hours, and that in less than ten years, too. The call seems to be all around for quicker time, and it is noticeable that whenever a fast train has been put on, it has always run full and been the most popular train of the road on which it is placed.

The number of cars which came into New England through the Hoosac Tunnel, in May, was 4,500, which was some 228 less than for the same month of last year. When the dullness of the export business and the high prices prevailing on grain and cattle in the West are taken into consideration, this is much less of a decrease than might reasonably be expected.

The New York and New England Railroad reports that it brought around its Harlem transfer, during May, 3,076 loaded freight cars and 85 emptys, coming into New England, and that it sent West, via this route, 2,552 loaded and 342 empty cars. At its new connection with the Erie, and the Pennsylvania coal fields, at Newburg, they received 2,144 loaded cars and 23 empty ones to come East, delivered; and to be sent West, 557 loaded and 1,647 emptys. The east-bound traffic from the West having been so light during May, a large per cent of these 1,647 emptys must have been coal cars returning home. These figures show that we are getting our share of business.

C. J. King, general traveling agent of the Boston and Maine Railroad, has been offered the same position on the Boston, Concord and Montreal, and will resign to accept it.

President Strong, of the Atchison, Topeka and Santa Fe Railroad, has secured George O. Manchester to assist him, in place of F. L. Parker, who went to Mexico. Mr. Manchester has heretofore been assistant to the general manager of the road in Kansas, and has moved to Boston and entered upon his duties.

The Boston and Albany report the largest passenger business for years for this season. They secured 800 emigrants from a steamship which arrived on the 10th.

Out of 10,875 cars delivered by the Boston and Albany Railroad to the New York Central during May, 9,072 of them came from Boston; and out of 9,942 received from them, 7,216 came to points on the road east of Worcester.

The Boston and Albany Railroad officials are cultivating an eye for the beautiful, by issuing an order forbidding patent medicine advertisers and the makers of cigarettes, etc., from plastering every fence, wall and building in sight of the track, over with advertisements. This looks like a sensible idea, but the question now suggests itself, Will they send a man along the road to paint out those already there? If not, this generation will lose the benefit of the order. "A word to the wise," etc.

The New York and New England Railroad are doing a large business in strawberries this year. A train arriving here last Sunday had some ten car-loads attached.

The Fitchburg Railroad is experimenting with a dump-car, that can easily be shaken by two men. It is a patent of F. P. Johnson, of Waltham. Assistant Superintendent Turner speaks of it as a valuable invention. The inventor intends introducing it elsewhere.

The Eastern Railroad of New Hampshire will pay a dividend of 2½ per cent on the 15th.

The Connotton Valley Railroad managers announce that they have purchased 3,800 tons of steel rails.

The Old Colony Railroad has declared a dividend of $3.50 per share.

The New York and New England Railroad reports an increase of $63,558.16 in its earnings for May of this year, above those of the same month of last year.

The story that the Eastern Railroad is to be leased by the Boston and Maine, is, for the fifth or sixth successive year, abroad in our midst, and with few believers, as usual. It would require a 6 per cent guarantee to the bondholders of the Eastern for that to be done, which is an undertaking that few would want to shoulder. The rumor that the Maine Central is to have the Eastern is also pronounced by the officials to be false.

The Boston and Maine Railroad has about completed its double track through to Scarboro, Me. It will not be long before their entire line from Boston to Portland will be laid with a good double track of steel rails.

The Eastern Railroad is only waiting for a few hot days to put its mountain and seashore cars into use. This road has just completed some twenty new and handsome passenger cars, at a cost of from $4,000 to $5,000 each. Their passenger traffic is among the best of the list, they standing third in the number of passengers carried by the Boston roads during the last year.

The new president of the Boston, Hoosac Tunnel and Western Railroad, Hon. Ginery Twitchell, is actively engaged in looking over the road and its connections. President Stearns, of the Fitchburg, has been looking over the new Saratoga branch of the Boston, Hoosac Tunnel and Western with him. CURTIS.

BOSTON, June 13, 1882.

AT a meeting in Baltimore on the 8th inst., of the Committee of Management of the Baltimore and Ohio Railroad Employes' Relief Association, the most comprehensive and liberal arrangements were made for receiving on deposit the savings of the company's employes, and allowing them four per cent interest, and for loaning them money for the purpose of purchasing or improving homesteads at a uniform rate of six per cent.

The Stock Exchanges and Money Market.

New York Stock Exchange.

Closing Prices for the week ending June 14.

	Th.8.	F.9.	Sat.10.	M.12.	Tu.13.	W.14.
Adams Express	138	.....	.....	.....	.....	137½
Albany and Susq.	.....	....	.....	.....	.....	.....
1st mortgage	.....	.....	.....	.....	.....	.....
2d mortgage	.....	.....	.....	.....	.....	.....
American Express	95¾	.....	.....	92	92⅝	...
Burl., C. R. & Nor.	70	.....	67	.....	.....	.....
1st mortgage 5s	99¼	99	98⅞	99	.....	....
Canada Southern	47	45¾	47	47⅝	48¾	50
1st mortgage guar	94½	.....	95	95⅜	95⅜	.....
Central of N. Jersey	67⅞	67⅝	67	69	69⅜	70⅜
1st mort. 1890	.....	.....	.....	.....	.....	.....
7s, consol. ass	110	.....	.....	.....	110½	.....
7s, convertible ass.	108	.....	.....	.....	107⅛	.....
7s, Income	.....	.....	.....	.....	.....	.....
Adjustment	104¾	.....	104¾	.....	105	.....
Central Pacific	87¾	87⅜	87⅛	88⅝	88⅝	90¼
6s, gold	117½	.....	.....	117¼	117⅛	.....
1st M. (San Joaq)	.....	.....	....	110	.....	.....
1st M. (Cal. & Or.)	.....	.....	.....	.....	.....	.....
Land grant 6s	..	.....	....	.....	.....	.....
Chesapeake & Ohio	.....	20¾	20¼	20⅛	20⅛	21⅜
1st pref	.....	.....	.....	28	30	.....
2d pref	.....	23	.....	.....	23	23¾
1st mort., series B	..	.....	.....	77¾	.....	78⅛
Chicago and Alton	131	131½	.....	130½	....	132⅛
Preferred	.....	.....	.....	.....	.....	.....
1st mortgage	.....	.....	.....	.....	.....	.....
Sinking Fund	.....	.....	.....	111⅛	.....	.....
Chi,, Bur. & Quincy	128¼	127⅛	127¾	129¼	140¼	130¼
7s, Consol. 1903	131	....	132	.....	.....	.....
Chi., Mil. & St. Paul	109⅝	108⅞	108¾	109⅛	109⅞	110⅞
Preferred	124⅞	124	123	124⅜	123½	126
1st mortgage, 8s	.....	.....	.....	.....	.....	.....
2d mort., 7 3-10s	.....	.....	.....	.....	.....	.....
7s, gold	.....	.....	.....	.....	.....	.....
1st M. (La. C. div)	.....	.....	.....	.....	.....	.....
1st M. I. & M. div.)	.....	.....	.....	.....	.....	.....
1st.M. (I. & D. ext.)	.....	.....	.....	.....	.....	.....
1st M. (H.&D. div.)	.....	.....	.....	.....	117⅛	117¾
1st M.(C. & M.div.)	.....	.....	.....	.....	.....	.....
Consolidated S. F.	121¾	.....	121¼	120½	121½	121⅛
Chi. & Northwestern	130	129¾	129⅛	129⅞	130⅝	128¾x
Preferred	143⅛	143⅛	.....	143⅜	.....	142¾x
1st mortgage	.....	.....	.....	.....	.....	.....
Sinking Fund 6s	.....	.....	111⅛	.....	.....	.....
Consolidated 7s	.....	.....	133¼	.....	.....	.....
Consol. Gold bo'ds	.....	.....	.....	.....	.....	.....
Do. reg	125	.....	.....	.....	123½	.....
Chi., R. Isl. & Pac.	129¼	129¼	128⅜	129½	130¼	130⅜
6s, 1917, c	129⅛	129⅛	.....	.....	.....	.....
Clev.,Col.,Cin.&Ind.	66⅛	65½	....	68	70¾	73⅛
1st mortgage	.....	.....	.....	.....	.....	.....
Clev. & Pittsburg gr.	137	.. ..	.....	137	.....	.....
7s, Consolidated	125⅛	...	...	.....	.....	.....
4th mortgage	.....	.....	.....	.....	.....	.....
Col.,Chi.,& Ind. Cent	7½	7½	7	7¼	8	8
1st mortgage	120	.....	.....	.....	.....	.....
2d mortgage	.....	.....	.....	.....	.....	.....
Del. & Hud Canal.	103¾	103¼	.....	103⅞	104	105¼
Reg. 7s, 1891	.....	.....	.....	....	117	116
Reg. 7s, 1884	107	.....	107	.....	107	...
7s, 1894	.....	.....	.....	.....	.....	.....
Del.,Lack.& Western	119¾	119¼	119	120	121	123⅝
2d mortgage 7s	.....	.....	.....	.....	.....	.....
Consol. 1907	.....	.....	.....	.....	.....	.....
Erie Railway	...	.....	.....	.....	.....	.....
1st mortgage	.....	.....	...	.....	.....	.....
2d mort. 5s, ext.	..	.	.....	.....	.....	.....
3d mortgage	.....	105¾	.....	.....	. .	105¼
4th mort. 5s, ext.	.....	.....	.....	.....	.....	.....
5th mortgage	.....	.....	.....	.....	.....	.....
7s, Consol. gold	126½	.....	126½	126¼	.....	126½
Great West. 1st mort	.....	.....	.....	...	.....	.....
2d mortgage	.....	.....	98	.....	.....	98
Hannibal & St. Jo.	.....	.....	.....	.....	.....	.....
Preferred	79	79	78	77⅛	77⅛	80⅛
8s, Convertible	.....	.....	.....	.....	.....	...
Houston & Tex. Cen	.....	.....	.....	69¾	69¾	69¼
1st mortgage	112	....	.....	.....	.....	.....
2d mortgage	.....	.....	.....	.....	.....	.....
Illinois Central	133	131⅞	132	133¼	133	134½
LakeShore&MichSo	101⅜	101⅛	101⅞	104⅝	104⅞	107⅞
Consol. 7s	.....	.....	.....	.....	.....	.....
Consol. 7s, reg	.....	126	.....	.....	.....	.....
2d Consolidated	.....	.....	.....	.....	.....	.....
Leh. & W. B. con.ass	100	.....	.....	100	.....	101
Long Dock bonds	.....	.....	.....	.....	116	.....
Louisville & Nash.	65¾	62¾	62⅛	64¾	65¼	68
7s, Consolidated	.....	.....	.....	.....	118	.....
Manhattan	58¾	57	57	.....	57	57
1st pref	.....	91	.....	.....	.....	.....
Met. Elevated	.....	.....	.....	.....	.....	.....
1st mortgage	102½	102¾	102	.....	102½	103
Michigan Central	85⅝	84⅜	85⅛	86⅞	87⅛	88⅛
7s, 1908	.....	123⅜	.....	.....	.....	124⅛
Morris & Essex	.....	125⅛	125	122½	.....	121⅛
1st mortgage	.....	...	....	.....	.....	.....
2d mortgage	.....	.....	.....	.....	.....	.....
7s of 1871	.....	.....	.....	.....	.....	.....
7s, Convertible	.....	..	.....	.....	.....	.....
7s, Consolidated	121⅝	.....	...	121½	.....	.....
N.Y. Cen. & Hud. R.	127⅜	127⅜	127⅜	129⅛	129¾	131
6s, S. F. 1883	101⅝	.....	.....	.....	101⅝	....
6s, S. F., 1887	....	.	.....	.....	.....	.....
1st mortgage	..	133⅛	.....	.....	.....	135⅛
1st mortgage, reg.	.....	.....	.....	.....	.....	.....
N. Y. Elevated	.....	.....	.....	.....	.....	.....
1st mortgage	.....	.....	.....	117⅝	.....	117½
N. Y. & Harlem	.....	.....	.....	.....	.....	.....
Preferred	.....	.....	.....	.....	.....	.....
1st mortgage	.....	.....	.....	.....	.....	.....
1st mortgage, reg	.....	.....	.....	.....	...	132
N. Y., Lake Erie & W	34¼	33¾	33¾	35⅞	35½	36
Preferred	69¼	.....	.....	70	72	.....
2d Consolidated	89	88¾	88⅞	90½	92¼	94½
New 2d 5s fund	.....	.....	.....	.....	89¾	90¼
N.Y.,N.Hav'n&Hart	.....	.....	.....	.....	.....	.....
North Mo. 1st mort	..	.....	.....	.....	.....	.....
Northern Pacific	40¾	39¾	39⅛	40	39⅞	40⅜
Preferred	77⅞	77	76	76⅞	76⅞	78⅛
Ohio & Mississippi	.....	31	30¼	32⅛	....	.....
Preferred	.....	.....	.....	.....	.....	.....
2d mortgage	...	.....	120½	.....	.....	.....
Consolidated 7s	.....	.....	.....	.....	.....	.....
Consol. S. Fund	.....	.....	118½	.....	.....	.....
Pacific Mail S. S. Co	40	40	39½	40	39¾	42⅛
Pacific R. R. of Mo.	.....	.....	.....	.....	.....	.....
1st mortgage	.....	.....	.....	.....	.....	.....
2d mortgage	.....	.....	.....	.....	....	.....
Panama	.....	.....	.....	.....	.....	.....
Phila. & Reading	54⅛	53⅞	53¾	54¾	55	58¾
Pitts,Ft.W.&Chi.gtd	.....	.....	.....	.....	.....	.....
1st mortgage	.....	.....	140½	.....	140⅜	.....
2d mortgage	..	.....	.....	.....	.....	.....
3d mortgage	.....	131	.....	.....	.....	.....
Pullman Palace Car	118⅞	118⅞	119	117	119	121¾
Quicksil'r Min'g Co	8¼	8¼	8¼	.....	.....	8¾
Preferred	.....	.....	.....	.....	.....	.....
St. Louis & San Fran	.....	35	34	.....	34	36
Preferred	46	46½	.....	46	46½	47½
1st Preferred	.....	.....	...	65	.....	85
St. L., Alt'n & T. H.	23	23¼	.....	.....	.....	25¾
Preferred	.....	.....	.....	.....	.....	.....
1st mortgage	.....	.....	.....	.....	.....	.....
2d mort. pref	.....	.....	.....	.....	.....	.....
Income bonds	.....	.....	.....	.....	.....	.....
St. L., Iron Mt. & S	.....	.....	.....	.....	.....	.....
1st mortgage	.....	.	.....	.....	117	.....
2d mortgage	106½	.....	.....	.....	.....	.....
Toledo and Wabash	....	.....	.....	.....	.....	.....
1st mortgage	.. ..	.....	....	.....	.....	.....
2d mortgage	...	.....	.....	.....	98⅜	99½
7s, Consolidated	.....	.....	.....	.....	.....	.....
St. Louis Division	.....	.....	.....	.....	.....	.....
Union Pacific	109⅛	103½	107x	108⅛	108⅝	110⅜
1st mortgage	.....	118½	118¼	118⅜	118¼	118½
Land Grant 7s	.....	.....	.....	.....	.....	.....
Sinking Fund 8s	.....	121⅛	.....	.....	.....	.....
United States Ex	70	.....	.....	.....	71	.....
Wabash, St. L.& Pac	25¾	25⅛	24½	25½	25¾	27½
Preferred	48¾	46⅞	47¼	48½	49¾	50⅝
New mort. 7s	.....	.....	.....	.....	.....	..
Wells-Fargo Ex	130	.....	.....	.....	128	.....
Western Pacific b'ds	.....	.....	.....	.....	.....	115
Western Union Tel.	82⅛	82	82	82⅜	83¾	84⅜
7s., S.F conv., 1900	.....	.....	.....	.....	.....	.....
FEDERAL STOCKS:—						
U. S. 4s, 1907, reg	119⅛	119⅛	.....	.....	119⅜	.....
U. S. 4s, 1907, coup.	.....	121½	120⅝	.....	.....	.....
U. S. 4½s, 1891, reg.	.....	....	.....	.....	.....	.....
U. S. 4½s, 1891, coup	114⅛	114⅛	. ...	114⅛	114½	.....
U. S. 5s, cont'd at 3½	...	.....	.....	.....	101⅜	.....
U. S. 6s cont'd at 3½	.....	... .	.....	.....	.....	.....
Dt. of Col. 3-65s, reg	.....	.....	.....	.....	.....	.....
Dt. of Col.3-65s,coup	.....	.....	.....	.....	.....	.....

Boston Stock Exchange.

Closing Prices for the Week Ending June 14.

	Th.8.	F.9.	Sat.10.	M.12.	Tu.13.	W.14
Atch.,Top.&San.Fe.	84⅛	83½	83⅝	84	83¾	85¼
1st mortgage	.....	.....	.....	118⅞	118¼	.....
Land Grant 7s	.....	.....	.....	.....	.....	.....
Boston & Albany	.....	.....	164½	165	.....	165
Boston and Lowell	....	103½	.....	.....	.....	.....
Boston & Maine	144	144¾	.....	145	.....	145
Boston& Providence	.....	.....	.....	.....	.....	156½
Bos'n,Hart.& Erie7s	47	.....	.....	47	47⅜	48
Burl.& Mo.R.L.G.7s	.....	.....	.....	.....	.....	.....
Burl.& Mo.R.in Neb	.....	.....	.....	.....	.....	.....
6s, exempt	....	.....	.....	.....	.....	112
4s	.....	.....	.....	.....	.....	.....
Chi.,Burl. & Quincy	128	127¾	128	128½	129	130
Cin.,Sand&Clev($50)	24¾	25	.....	25¼	25¾	26
Concord ($50)	.....	98	.....	.....	.....	.....
Connecticut River	.....	.....	.....	.....	.....	.....
Eastern	36	...	36	36	36¼	37¾
New 4½ Bonds	108	.....	.....	.....	.....	.....
Fitchburg	128¼	.....	.....	128¼	.....	.....
N.Y. & New England	45	....	45	45	45¾	45¼
7s	114	.....	.....	.....	114⅛	.....
Northern N. H.	.....	108	.....	108	.....	.....
Norwich&Worcester	.....	.....	.....	.....	.....	.....
Ogden & Lake Cham	.....	.....	.....	.....	.....	.....
Old Colony	133½	.....	.....	.....	133½	.....
Ph.,Wil.&Balt.($50)	.....	.....	.....	.....	.....	.....
Portl'd,Saco & Ports	....	.....	.....	.....	.....	.....
Pueblo & Ark Val 7s	.....	.....	.....	113¾	....	...
Pullman Palace Car	.....	119	.....	120	.....	.....
Union Pacific	109¾	108¼	109¼	108x	108¾	110
6s	...	.....	.....	116	116	.....
Land Grant 7s	.....	.....	.....	...	.....	.....
Sinking Fund 8s	.....	119	.....	119	119¾	.....
Vermont & Mass	.....	134	.....	.....	.....	.....
Worcester & Nashua	.....	.....	.....	.....	.....	.....
Cambridge (Horse)	.....	.....	.....	.....	.....	.....
Metropolitan(Horse)	.....	.....	.....	.....	.....	.....
Middlesex (Horse)	.....	.....	.....	.....	.....	.....
Cal.&Hecla Min'gCo	245	245	246	248	.....	248
Quincy	.....	53	53	54	.....	....

Philadelphia Stock Exchange.

Closing Prices for the Week Ending June 13.

	W.7.	Th.8.	F.9.	Sat.10.	M.12.	Tu 13.
Allegh'y Val. 7 3-10s	.....	.....	.....	.....	.....	.....
7s, Income	50	50	.....	.....	50	.....
Buff., Pitts & West.	14¾	14⅝	15	14¾	15¼	14¼
Camd'n & Am. 6s, '83	.....	.....	.....	.....	103	.....
6s, 1889	.....	.....	.....	.....	.....	.....
Mort. 6s, 1889	113	.....	.....	.	.....	.....
Camden & Atlantic	.....	.....	.....	.....	.....	.....
Preferred	.....	.....	.....	.....	40½	....
1st mortgage	.....	.....	.....	.....	.....	.....
2d mortgage	.....	.....	.....	.....	.....	.....
Catawissa	.....	.....	.....	.....	....	20
Preferred	53	.....	.....	.....	.....	.....
2d pref	.....	.....	.....	.....	.....	.....
7s, new	.....	.....	.....	.....	.....	.....
Del. & Bound Brook	.....	.....	.....	.....	.....	.....
7s	.....	125	.....	.....	.....	.....
Elmira&Williamsp't	.....	.....	.....	.....	.....	.....
Preferred	.....	.....	.....	.....	.....	.....
Hunt. & B. Top Mt.	.....	.....	12	.....	.....	.....
Preferred	.....	.....	.....	.....	.....	.....
2d mortgage	.....	.....	.....	.....	.....	.....
Lehigh Navigation	35¼	35⅝	35⅜	35⅞	36⅛	36⅝
6s, 1884	.....	.....	103¾	103¾	.....	.....
Gold Loan	.....	112	.....	.....	112⅛	112½
Railroad Loan	....	...	.	.....	116	.....
Conv. Gold Loan	.....	.....	.....	.....	...	.....
Consol. Mort, 7s	.....	.....	.....	116	.....	.....
Lehigh Valley	59	59	58½	.....	59	58¾
1st mort. 6s, coup	120	.....	.....	.....	.....	.....
1st mort. 6s, reg	120	120	.....	.....	.....	.....
2d mort. 7s	.....	.....	.....	.....	.....	.....
Consol mort. 6s	.....	.....	.....	120¾	121	.....
Consol.mtg.6s,reg	.....	.....	.....	.....	.....	.....
Little Schuylkill	...	.....	.....	.....	.....	.....
Minehill&Sch.Hav'n	63	63	63	.....	62½	62¼
North Pennsylvania	.....	.....	62¾	.....	62¾	63
1st mortgage 6s	.....	.....	.....	.....	. .	.....
2d mortgage 7s	.....	.....	.....	.....	.....	.....
Genl. mtg.7s,coup	.....	.....	.....	.....	.....	.....
Genl. mtg. 7s, reg	.....	.....	.....	.....	.....	.....
Northern Central	44	45¼	44¼	.....	.....	.....
5s	.....	.....	.....	.....	.....	.....
Northern Pacific	40⅜	40⅝	40¼	39½	40	40¼
Preferred	77⅝	77¾	77	76	76⅞	76¾
Pennsylvania R. R.	54¾	55¼	55	54⅞	55⅜	56⅜
1st mortgage	.....	.....	.....	.....	.....	.....
Gen'l mort	124½	.....	.....	.....	.....	.....
Gen'l mort reg	123½	.....	.....	.....	.....	.....
Consol. mort. 6s	.....	.....	.....	.....	.....	.....
Consol. mort. reg	.....	.....	.....	.....	.....	...
Pa. State 5s, new	118	.....	.....	.....	118½	118⅛
do 4s, new	.....	.....	.....	.....	.....	.....
do 3½s, 1912	.....	.....	.....	.....	.....	.....
Phila. & Reading	26⅝	27	26½	26¾	27¼	27⅜
1st mortgage 6s	.....	.....	.....	.....	.....	.....
7s of 1893	.....	.....	.....	.....	.....	.....
7s, new convert	.....	.....	.....	.....	.....	.....
Consol. mort. 7s	.....	.....	.....	.....	124¼	123
Consol. mort. reg	124	.....	.....	.....	.....	.....
Gen'l mort. 6s	.....	97	96¾	97	97¼	97¼
Def. Income bonds	....	.....	.....	.....	.....	.....
Philadelphia & Erie	.....	.....	.....	.....	.....	.....
1st mortgage 5s	102½	.....	.....	.....	102½	102¾
2d mortgage 7s	117	.....	.....	.....	117	.....
Pittsb.,Cin.&St.L.7s	.....	.....	.....	.....	119	.....
Pitts.,Tit.&Buff. 7s	.....	.....	.....	.....	.....	.....
Schuylkill Navi't'n	..	.. ..	.. ..	.....	.....	.....
Preferred	.....	.....	12	.....	.....	12⅛
6s, 1895	.....	.....	...	.....	.....	.....
6s, 1882	.....	.....	.....	.....	.....	.....
United Co. of N. J.	187½	.....	187½	.....	187½	.....
Hestonville, (Horse)	.....	.....	.....	.....	.....	.....
Chestnut&Wal.(do)	.....	.....	.....	.....	.....	.....

Baltimore Stock Exchange.

Closing Prices for the Week Ending June 13.

	W.7.	Th.8.	F.9.	Sat.10.	M.12.	Tu.13.
Baltimore & Ohio..	.....	.....	.....	.....	.....	193
6s, 1885.....	.....	. . .	.....	.....	106¾	...
Central Ohio ($50)..	...	.....	.....	.....	.....	.....
1st mortgage.....	.....	.....	.....	.....	.....	.....
Marietta & Cincin'ti	.....	.....	.....	.....	.....	.....
1st mortgage, 7s..	.....	.....	.....	.....	124½	....
2d mortgage, 7s..	.....	.....	.....	.....	.....	.....
3d mortgage, 8s..	.....	53½	.....	.....	.....	.....
Northern Cen. ($50)	44	45¼	44¾	.....	44¾	.....
2d mort., 6s 1885..	.....	.....	.....	.....	.....	.....
3d mort., 6s, 1900..	.....	.....	.....	.....	.....	.....
6s, 1900, gold.....	.....	.....	.....	.....	.....	.....
6s, 1904, gold.....	.....	.....	.....	.....	.....	.....
Pitts.& Connellsv.7s	.....	.....	....	.....	.....	.....
Virginia 6s, Consol.	61	61½	61	61¼	60⅝	60½
Consol. coupons..	63¼	.....	.....	. ...	.....	.....
10 40 bonds.....	42¾	.....	42½	42¼	40	.....
Def'd Certificates.	.....	.....	.....	.....	.....	.....
Western Maryland..	.....	.....	.....	.....	....	.....
1st M.,end.by Balt	.....	.....	.....	.....	.....	.....
2d M. do .	.....	.....	.....	.....	.....	....
3d M., do .	.....	.....	.....	.....	.....	.....
1st M.,unendors'd	114	.....	.....	.....	.....	.....
2d M.,end.WashCo	.....	.....	.....	.....	.....	.....
2d M., preferred..	.....	.....	.....	.....	.....	.....
City Passenger R R.	....	.....	.....	.....	43	.....

London Stock Exchange.

	Closing Prices — June 2.		May 26.	
Baltimore & Ohio 5s, 1927.....	105	107	107	109
Central of N. J., $100 shares....	93	98	93	98
Do. consol. mort.....	112	115	112	115
Do. Income Bonds.....	93	97	93	97
Det.,G'd Haven & Mil. Equip bds	115	117	115	117
Do.Con.M.sp.c.,till'83aft'86p.c	112	114	112	114
Illinois Central $100 shares.....	137	139	137	139
Lehigh Valley Cons. mortgage..	115	119	115	119
Louisville & Nashville mort 6s.	99	101	99	101
Do. capital stock $100 shares.	76	78	75	77
N. Y. Cent. & Hud. R. mt. bds..	135	138	134	136
Do. $100 shares.....	130	132	129	131
Do mort. bonds (stg.).....	124	126	124	126
N.Y.,Lake Erie & West.,$100 shs	35½	36	35¾	36¼
Do. 6 p. c. pref. $100 shares ..	72	75	72	74
Do. 1st Con. Mort. bds (Erie) .	128	130	128	130
Do. do. Funded Coupon bds.	124	126	124	126
Do. 2d Consol Mort. bonds...	93	95	93	95
Do. do. Funded Coupon bds..	91	93	92	94
N.Y.,Pa.& Ohio 1st mort. bonds.	45¼	46⅛	45⅛	46⅛
Do. Prior Lien bds (sterling)..	103	108	103	108
Pennsylvania, $50 shares.....	57⅛	57	58	58⅛
General Mortgage.....	122	126	122	126
Philadelphia & Reading $50 shs	28¼	28¾	28⅛	29
General Consol Mortgage.....	115	117	118	120
Do. Improvement Mortgage..	102	104	102	104
Do.Gen.Mtg.'74,ex-def'd coup.	89	101	99	101
St. L. Bridge 1st mort. gold b'd.	125	127	125	127
Do. 1st pref. stock.....	98	102	98	102
Union Pacific 1st. mtg	118	120	117	119
Wabash, St. L. & P. $100 shs.....	29	30	29	31
Do. $100 pref. shares.....	52	54	53	55
Do. gen. mort. bonds.....	81	83	83	85

AMERICAN RAILROAD JOURNAL

Financial and Commercial Review.

THURSDAY EVENING, June 15, 1882.

DURING the morning hours the quotations for call loans were 2@3 per cent, for time loans 4@5 per cent, and for prime mercantile paper 4½@5½ per cent. In the afternoon the rate was 2½ per cent, and at the close 2 per cent.

The actual rates for prime bankers' sterling were 4.89@⅛ and 4.86⅛@⅛, with cables 4.89⅛@¾, and prime commercial bills 4.85@¼. The actual rates for continental bills are as follows: Francs, 5.18⅛@5.17⅛ and 5.15@5.14⅜; Marks, 95@⅛ and 95¾@⅞, and Guilders 40¼ and 40⅜.

It is the fashion in this country to form telegraph companies, most of which eventually become absorbed by the Western Union, or its promoters; therefore no surprise is caused by a telegram received from Chicago on the 11th inst. announcing that a new telegraph company, with a capital of $21,000,000, has been organized, that work has actually begun on its lines in the east, and that they are to be pushed rapidly west, connecting all the principal cities. Elisha Gray, the electrician, gives the following facts in regard to it. The principal stockholders are George B. Roberts and S. B. White, of New York; John B. Alley and ex-Collector Beard, of Boston; and Governor Foster, of Ohio, who, with his friends, hold a large block of the stock. The lines are to be operated with Gray's patents. It is to be known as the Postal Telegraph Company. Material reductions in telegraph tolls are promised. Seven hundred thousand dollars have been paid in.

The announcement is also made that a company has been formed in England for the purpose of laying two new cables between that country and this with as little delay as possible, and that the movement has the co-operation of several well-known banking houses in this city and Boston. It is further announced that there has been subscribed in London $4,000,000 to the capital stock of the new company. A provisional board has been formed and two of the directors of the Bank of England, as well as some of the first merchants of London, are members of it. An arrangement has been made with Mr. Garrett, of Baltimore, to operate the new cables in connection with the Baltimore and Ohio Telegraph Company. It is said that the cables are to be operated upon the co-operative principle, and that all stockholders will be entitled to a rebate on their business in proportion to their holding in the stock of the company. The tariff to the public will be twenty-five cents a word. By means of the Baltimore and Ohio Telegraph Company's wires the new cables will have an entry in Boston, New York, Philadelphia, Chicago and other centers of commerce. It is estimated that the two cables will cost $9,000,000.

Annual meetings were held in this city on the 13th inst. of the stockholders of the Mexican Telegraph Company, and of the Central and South American Telegraph Company, at which boards of directors and officers were elected for each—the officers being the same for both. The latter company, which is closely related to the former, announce that they expect to have their cable completely laid during this month and in operation soon. The cable between Payta and Saint Elena was finished in May. The land line across the isthmus of Tehuantepec was completed on the 11th inst., and the extension to Galveston, Texas, a distance of 280 miles, was successfully laid on the 12th.

Meetings are to be held in London, England, on the 29th inst. of the shareholders of the Great Western and Grand Trunk Railway companies of Canada for the purpose of considering an agreement between the directors for the consolidation of the two companies. The proposal to beconsidered looks toward a consolidation from the 1st of July next. The proposition embraces the consolidation of the undertakings of the two existing companies, the retainer of the stock of each company under the distinct existing titles, the division of the net proceeds of the consolidated undertaking after payment of interest on borrowed capital, rents of leased lines, and all other outgoings between the two classes of stocks as follows: 30 per cent to the Great Western stock, and 70 per cent to the Grand Trunk stock. But if the 30 per cent appropriated to the Great Western stock is in any year insufficient to pay 5 per cent per annum on the preference portion and 3 per cent per annum on the ordinary portion of that stock, then the deficiency is to be made good out of the 70 per cent appropriated to the Grand Trunk stock, and all sums paid to make good such deficiency to be recouped out of any surplus remaining in any subsequent year of the 30 per cent after discharging interest at the before-mentioned rates of the Great Western stock. One-third, as nearly as may be, of the directors of the consolidated undertaking to be qualified by holding Great Western stock and the other two-thirds by holding Grand Trunk stock.

The gross receipts of the Great Western Railway Company of Canada for the month of April, 1882 (excluding leased lines) were £74,446, and the working expenses (including transfers to reserve funds) £56,836, making the net receipts £17,610; for the month of April, 1881, the gross receipts were £88,952, the working expenses £59,897, and the net receipts £29,055—showing a decrease in gross receipts of £14,506, in working expenses of £3,061, and in net receipts of £11,445. For the three months ending April 30, 1882, the gross receipts were £212,241, the working expenses £174,946, and the net receipts £37,295; for the corresponding period of 1881 the gross receipts were £247,357, the working expenses £170,733, and the net receipts £76,664—showing a decrease in gross receipts of £35,156, with an increase in working expenses of £4,213, making a decrease in the net receipts of £39,369.

The gross receipts of the Grand Trunk Railway Company of Canada for the month of April, 1882, were £183,222, the working expenses £130,464 and the net profit £52,758; for the month of April, 1881, the gross receipts were £190,288, the working expenses £125,941, and the net profit £64,347—showing a decrease in the gross receipts of £7,066, with an increase in working expenses of £4,523, making a decrease in the net profit of £11,589. For the four months ending April 30, 1882, the gross receipts were £685,552, the working expenses £526,384, and the net profit £159,168; for the corresponding period of 1881 the gross receipts were £704,560, the working expenses £502,950, and the net profit £201,610—showing a decrease in gross receipts of £19,008, with an increase in working expenses of £23,434, making a decrease in the net profit of £43,442. The difference, as officially explained by the Secretary, between the decrease in gross receipts of £7,066, as shown in the monthly return, as compared with the smaller decrease to be computed from the weekly returns for the month of April, arises from there having been five Sundays and twenty-five working days in April, 1882. The difference of one working day is equal to about £6,000, and this, if deducted from the decrease of £7,066 in gross receipts shown in the monthly return, would reduce the decrease for the month to about £1,000, which closely agrees with the decrease computed from the weekly returns. This ought to be rectified in natural course in the returns for the month of May.

The Census Bureau at Washington has issued a bulletin showing that the live stock of the United States on farms on June 1, 1880, was as follows: Horses, 10,357,981; mules and asses, 1,812,932; working oxen, 993,970; milch cows, 12,443,593; other cattle, 22,488,500; sheep, 35,191,656; and swine, 47,683,951. The rate of increase from 1870 to 1880 was in horses 45 per cent, mules and asses 61 per cent, working oxen a decrease of 25 per cent, milch cows increase of 39 per cent, other cattle 66 per cent, sheep 24 per cent and swine 90 per cent.

An amicable agreement has been effected between the Adams Express Company and Wells, Fargo & Co. Express Company, whereby for the future the latter company will transact the express business over the Atchison, Topeka and Santa Fe Railroad and branches, and the Atlantic and Pacific Railroad. These routes include over 2,000 miles of railroad. On the 1st of July, Wells, Fargo & Co. will assume control of the express business of the Chicago, Burlington and Quincy and Burlington and Missouri lines west of the Missouri. These lines lead from Plattsmouth and Omaha to Denver; from Nebraska City to Calver, and from there to Atchison, to Lincoln and Columbus, and embrace 1,250 miles of railroad. Thus Wells, Fargo & Co., in the section in which a year ago they had not a mile of railroad, now have 3,250 for exclusive operation.

The First National Bank of Philadelphia, whose charter expired on the 13th inst., has re-organized under a new charter, and commenced business afresh, but with the same capital, surplus, circulation, etc. as before. This was the first National bank chartered in the United States.

The Chief of the Bureau of Statistics reports the total values of the exports of petroleum and petroleum products from the United States during April, 1882, were $4,186,955, and during April, 1881, $2,752,729. For the ten months ended April 30, 1882, $42,394,212, and for the same period the preceding year $31,401,186.

The tolls collected on the Erie Canal for the month of May aggregated $44,000. In May, 1881, they were $33,000. The boats cleared in May of this year were 856. In May of last year they were only 561. The tolls collected to June 1, this year, were $65,424, as against $32,996 to June 1, 1881. Twelve hundred and fifty-one boats have cleared this year, or six hundred and ninety more than were cleared in the same period last year.

The Standard Oil Company was chartered in Ohio as an oil refining company, with a capital of $1,000,000. In 1872 the capital was increased to $2,500,000, and in 1875 to $3,500,000. No change has been made in the nominal capital since the latter date, but the undivided profits have increased the actual capital to an acknowledged sum of $25,000,000 in 1880, but which is now estimated at $35,000,000. In addition to this undivided profit, over $10,000,000 have been declared in dividends in eight years.

The report of the Sinking Fund Commissioners of the State Ohio for the six months ending May 15, 1882, shows total receipts, $653,079.65; disbursements, $379,475.26—balance, $273,604.39. The condition of the funded debt remains the same as at the last report, the total being $5,201,665.

The imports at Montreal, Canada, for the month of May amounted to $4,954,500, an increase of over 60 per cent, or $2,268,369 over the corresponding month last year.

The commissioners for refunding the debt of Tennessee have opened an office at No. 7 Nassau street, New York, where the old bonds will be received for examination, and if found correct the new Compromise bonds at 60 cents for the face value and past-due coupons will be given in exchange.

A decision has been filed in the Supreme Court of Minnesota denying the application for an injunction to restrain the Treasurer from paying railroad bonds, under the act of the last session of the Legislature. The application was based on the ground that an amendment of the constitution authorizing the issue of bonds was illegal.

The following quotations of sales of railway and other securities, for the week, are in addition to those given elsewhere in our columns:

New York.—Atlantic and Pacific 1st, 101¼; Boston and New York Air Line pref., 74¾; Buffalo, New York and Erie 7s, new, 122; Chicago and Milwaukee 1st, 123; Chicago, St. Paul and Minneapolis 1st, 112½; Cedar Falls and Minnesota, 18; Chicago, St. Paul, Minneapolis and Omaha, 38½; do. pref., 101½; do. consol., 102½; Chesapeake and Ohio 1st, Series A, 100; do. cur. int., 46; do. 6s, 1911, 100; Chicago, Burlington and Quincy Iowa div. 4s, 87¼; Cairo and Fulton 1st, 105; Cairo, Ark. and Texas 1st, 105; Chicago, Milwaukee and St. Paul, Southern Min. div. 1st, 108½; do. Chicago and Pacific West div. 1st, 94½; do. Chicago and Pacific div. 1st, 120; do. Mineral Point div. 1st, 94; do. Southeast div. 1st, 110; Cleveland, Columbus, Chicago and Indianapolis consol., 121; Chicago and Northwestern S. F. 5s, 100¼; Chicago and Eastern Illinois 1st, 99½; Columbus, Chicago and Indiana Central 1st Trust Co. certif. ass. sup., 115; Denver and Rio Grande, 58; do. 1st, 113; do. consol., 105; Dubuque and Sioux City, 84; Delaware and Hudson 1st, Penn. div., 126; Denver, South Park and Pacific 1st, 100½; East Tennessee, Virginia and Georgia, 9¼; do. pref., 17; do. inc., 45½; do. divisional 5s, 75; Fort Worth and Denver, 1st, 94½; Gulf, Colorado and Santa Fe 1st, 108¾; Green Bay, Winona and St. Paul, 1st, 83; Hannibal and St. Joseph 6s, consol., 102¾; Indiana, Bloomington and Western, 39½; International and Gt. Northern 6s, 88½; do. 1st, 106; Indianapolis, Decatur and Springfield 2d inc., 76; Kansas Pacific 1st consol., 102¼; do. 6s, 1895, 112¾; Keokuk and Des Moines 1st, 105½; Louisville and Nashville Gen'l mort. 6s, 95½; do. St. Louis div. 1st, 108; Louisville, New Albany and Chicago, 58; Lake Erie and Western, 27½; do. 1st, 99¾; Long Island, 56½; do. consol. 5s, 97½; do. 1st, 117; Louisiana and Missouri River 1st, 115; Lehigh and Wilkesbarre Inc., 80; Lafayette, Bloomington and Muncie 1st, 100; Manhattan Beach, 31½; Mobile and Ohio, 17½; do. 1st deben., 69½; do. 2d deben., 41; Missouri, Kansas and Texas, 30½; do. consol. 7s, 106; do. 2d, 57; do. gen'l mort. 6s, 77½; Missouri Pacific, 91½; do. 3d, 109; Milwaukee, Lake Shore and Western, 47½; do. 1st, 101; Memphis and Charleston, 45; Minneapolis and St. Louis pref., 60; Michigan Central 5s, 99⅞; Metropolitan Elevated 2d, 90; New York, Chicago and St. Louis, 11¼; do. pref., 29⅞; do. 1st, 85; Nashville, Chattanooga and St. Louis, 55½; do. 1st, 116¼; New York, Ontario and Western, 24½; Norfolk and Western pref., 49⅞; do. Gen'l mort., 101⅛; Northern Pacific 1st consol., 103½; New Orleans Pacific 1st, 87½; Ohio Central, 13½; do. 1st, 95; Oregon Transp., 71½; Oregon Railway and Nav., 135; Ohio Southern 1st, 78; Oregon Short Line 6s, 104⅓; Peoria, Decatur and Evansville, 27¾; do. 1st, 105; Rochester and Pittsburgh, 24; Rensselaer and Saratoga, 140; Richmond and Alleghany, 18¾; do. 1st, 85; Richmond and Danville, 98; do. deben., 68½; do. 1st, 100; Richmond, Danville and West Point, 53⅝; St. Louis, Jacksonville and Chicago 1st, 115; South Pacific of Missouri 1st, 106; Scioto Valley 1st consol., 93; St. Paul, Minneapolis and Manitoba, 134¾; do. 1st, 111¾; do. 2d, 111½; do. Dakota ext., 1st, 108; St. Louis, Kansas City and Northern, Omaha div. 1st, 104¾; St. Paul and Sioux City 1st, 112; St. Louis, Iron Mountain and Southern 5s, 78; St. Louis and San Francisco 2d, Class B, 85; Southern Pacific of California 1st, 105½; South Carolina 1st, 97¼; do. 2d, 81; do. inc., 46; Texas and Pacific, 40⅝; do. inc. Land Grants, 62; do. Rio Grande div. 1st, 81⅛; Union Pacific, Collateral Trust 6s, 105; Winona and St. Peter 1st, 109¾; Wabash, St. Louis and Pacific, Gen'l mort. 6s, 77; do. Iowa div. 1st, 90; Arkansas 7s, Chatham R. R., 8½; Alabama, Class A, 80½; Missouri 6s, 1887, 105¼; do. H. & St. J. issue, 1886, 105½; Tennessee 6s, 55; Colorado Coal and Iron, 46¾; do. 6s, 90; Cameron Coal, 33; Pennsylvania Coal, 245; Sutro Tunnel, ¾; Deadwood, 5; Excelsior, 1½; Homestake, 18; Little Pittsburgh, 1½; Mariposa, 2; Ontario, 35¾; Standard, 17½.

Boston.—Atchison, Topeka and Santa Fe plain 5s, 85¼; Atlantic and Pacific blocks, 109½; do. inc., 27; Boston, Clinton, Fitchburg and New Bedford, 60; Boston Water Power, 4¼; Boston Land, 7; Burlington and Missouri River in Nebraska non-exempt, 104; Connotten Valley, 7⅝; Chicago, Burlington and Quincy 7s, 127½; do. 4s, 86½; do. 4s, Denver extension, 83½; Cedar Rapids and Missouri River 7s, 111; Chicago, Milwaukee and St. Paul. Dubuque div. 6s, 103⅛; Connecticut and Passumpsic Rivers R. R. 7s, 114; Chicago and West Michigan, 68; Flint and Pere Marquette, 22; do. pref., 96¼; Iowa Falls and Sioux City, 88; Kansas City, Lawrence and Southern 5s, 102¾; Kansas City, Fort Scott and Gulf 7s, 111¼; Louisiana and Missouri River pref., 30; Little Rock and Fort Smith, 45; do. 7s, 107; Marquette, Houghton and Ontonagon, 60; do. 6s, 104¾; Maine Central, 65; Mexican Central 7s, 85¾; do. Block No. 2, 110½; do. No. 3, 105; Massachusetts Central, 5⅛; do. 6s, 45; Northern Pacific 6s, 106¼; New Mexico and Southern Pacific 7s, 113⅛; New York and New England 6s, 103⅜; Oregon Short Line sub., 101¼; Oregon Imp. Co., 65; Rutland pref., 23¾; do. 6s, 99; Sonora 7s, 102⅞; Summit Branch, 8; Toledo, Cincinnati and St. Louis, 5⅝; do. inc., 14; Toledo, Delphos and Burlington, Southeast div. 6s, 62; Wisconsin Central, 15; do. pref., 25; Franklin, 13⅛; Huron, 1¾; Napa Quicksilver, 5; National, 1⅝; Osceola, 32; Pewabic, 10½; Sullivan, 1¼; Silver Islet, 15.

Philadelphia.—American Steamship Co., 25¼; Central Transportation, 34; Huntingdon and Broad Top Mt. consol. 5s, 85; Nesquehoning Valley, 52½; New Orleans Pacific 6s, 86¼; Philadelphia, Germantown and Norristown, 111; Perkiomen 6s, 104; Philadelphia and Reading scrip, 96; do. Income 7s, 100; do. consol. gold 6s, 112⅛; Philadelphia and Trenton, 186; Philadelphia City 4s, 1904, 112½; Pennsylvania R. R. allotments, 6¼; Philadelphia, Wilmington and Baltimore 4s, 94½; Pennsylvania and New York Canal 7s, 1906, 124; Pittsburgh City 5s, 108; Schuylkill Nav. 6s, 1907, 91; do. 1897, 106½; Texas and Pacific consol. mort. 6s, 96; do. Rio Grande div. 6s, 79; West Jersey and Atlantic 6s, 108½; West Jersey consol. 6s, 109½. The latest quotations are: City 6s, 108@118; do. free of tax, 125@133; do. 4s, new, 108@115; Pennsylvania State 5s, new loan, 118¼@118¾; do. 4s, old, 108@112; do. 4s, new, 114@115; Philadelphia and Reading R. R., 27⅛@27⅝; do. consol. mort. 7s, reg., 124@124½; do. gen'l mort. 6s, coupon, 97@97½; do. 7s, 1893, 119@121; do. new conv., 72@75; United New Jersey R. R. and Canal, 187@188; Buffalo, Pittsburg and Western, 15½@15⅝; Pittsburgh, Titusville and Buffalo 7s, 95@97; Camden and Amboy mort 6s, 1889, 112½@113½; Pennsylvania R. R., 56½@56⅝; do. general mort. 6s, coupon, 124@125; do. reg., 124@126; do. consol. mort. 6s, reg., 120@121; Little Schuylkill R. R., 57@58; Schuylkill Navigation, pref., 12@12½; do. 6s, 1882, 90@91; Elmira and Williamsport pref., 58@60; do. 5s, 95@100; Lehigh Coal and Navigation, 36⅝@36¾; do. 6s, 1884, 103½@104; do. R. R. loan, 115½@116½; do. Gold Loan, 112¼@112½; do. consol. 7s, 115½@116½; Northern Pacific, 40@40½; do. pref., 76⅝@76¾; North Pennsylvania, 62½@63; do. 6s, 107@108; do. 7s, 120@121; do. 7s, General mort. reg., 122@123; Philadelphia and Erie, 11@15; do. 7s, 116½@117½; do. 5s, 102½@103; Minehill, 62¼@62½; Catawissa 19½@20; do. pref., 52@54; do. new pref., 51@53; do. 7s, 1900, 120@—; Lehigh Valley, 58¼@58¾; do. 6s, coupon, 120@121; do. reg., 120@121; do. 7s, 133@133½; do. consol. mort. 120½@121; Fifth and Sixth streets (horse), 150@155; Second and Third, 109@111; Thirteenth and Fifteenth, 70@75; Spruce and Pine, 40@45; Green and Coates, 80@90; Chestnut and Walnut, 90@93; Germantown, 70@72; Union, 110@115; West Philadelphia, 107@112; People's 14@14¼; Continental, 100@102.

Baltimore.—Atlanta and Charlotte, 66½; do. 1st, 110¼; Atlantic Coal, 1.20; Baltimore City 6s, 1890, 118½; do. 5s, 1916, 124¾; do. 5s, 1894, 116½; Canton Co. 6s, gold, 105; Columbia and Greenville 1st, 104¼, Maryland State 6s, 1890, 116; do. Defense 6s, 105¼; Marietta and Cincinnati 1st Trust certificates, 125⅛; do. 2d do. 97; do. 3d, do., 52¼; Northern Central, 5s, 97½; Ohio and Mississippi, 2d mort., 120; Parkersburg Branch, 10¼; Richmond and Danville gold bonds, 100; Virginia and Tennessee 2d, 102¾; Virginia Midland 4th mort., 50; do. 5th mort., 94¾; Virginia Peeler coupons, 8. The latest quotations are: Atlanta and Charlotte 1st, 109⅞@110½; Baltimore City 6s, 1890, 117@118; do. 6s, 1900, 128½@—; do. 5s, 1916, —@125; Baltimore and Ohio, 193@194¼; do. 6s, 1885, 106¼@106¾; Columbia and Greenville 1st, 104½@104⅝; Canton 6s, gold, 104½@105; Marietta and Cincinnati 1st, 125⅛@125¾; do. 2d, 98⅛@98⅝; do. 3d, 53⅛@53¾; Northern Central, 44@¾45; do. 5s, 1926, 95@98; Ohio and Mississippi, Springfield div. 1st, 115@116¼; Pittsburg and Connellsville 7s, 122⅞@124; Richmond and Danville 1st gold, 100@100¼; Virginia Midland 5th, 94½@95; Virginia Consols, 60½@60¾; do. 10-40s, 42@42½; Wilmington, Columbia and Augusta, 107¾@108.

Automatic Car Couplers and Freight Train Brakes.

THE Master Car Builders' Association of the United States commenced its sixteenth annual session in Philadelphia on the 13th inst.

The president, Leander Garey, of the New York Central and Hudson River Railroad Company, on taking the chair, addressed the convention, and referred to the organization of the Association at Altoona, Penn., sixteen years ago, by a few master car builders, drawn together by mutual interests. He said the Association had received no financial aid from the railroad companies, in whose interests its meetings are held. He referred to the present defective and expensive devices for coupling freight cars, and said he hoped that something practical would be presented and recommended during the convention in the shape of an automatic car coupler, dispensing with the use of loose links and pins, and yet admitting of their use when needed.

C. E. Garey, of New York, Chairman of the Committee on train brakes for freight cars, presented the following report:

"From replies received to circulars sent out when the committee was first appointed, in 1876, it was evident that there was no automatic brakes in existence adapted to freight service, and, while the practicability of such a brake was questioned by some, its desirability was conceded by all. Consequently your committee, in their first annual report, set forth certain stipulations which, in their judgment, should be embodied in any device to adapt it to the peculiar conditions of freight traffic, and, although little was accomplished for some time, still very satisfactory progress has been made in the last three years. Very few new devices have been produced during the last year, and some of these previously reported may be said to be in a progressive state.

"The Reed train brake has been considerably simplified in construction during the past year and is doing good work on the Harlem division, where it has been in operation for nearly two years. The American Brake Company report having their train brakes in successful operation on 500 cars on the St. Louis and San Francisco Railway and that for cheapness, efficiency and durability it is all they claim for it. Reports from the above railroad company give some 500 cars equipped with this brake running over a period of some fifteen months, and in that time several bad wrecks have been avoided by its use. The weight of the brake applied to one truck is 140 pounds per car and the first cost $11.75, while the annual cost of repairs is very small."

THE Khedive tried to get "over the Bey," but found he couldn't.—*Lowell Courier.*

RAILROAD AND CANAL DIVIDEND STATEMENT.

Showing the amount of Stock Outstanding, the Dividend Periods and the date of last Dividend.

Marked thus(*)are leased roads.	Stock out-standing.	Divide'd Periods.	Last Dividend Payable.
Albany and Susq*...100	2,500,000	semi-an	July '82 2
Ashuelot.....100	210,000	q'arterly	Oct. '81 3½
Atch., Top. and S. Fe100	54,000,000	q'arterly	May '82 1½
Atlanta and W. Point100	1,232 200	semi-an	Jan. '82 4
Atlantic and St. Law*100	5,840,000	semi-an	Mar.'82 3
Augusta and Savan'h100	1,022,900	semi-an	June'81 3½
Avon,Geneseo&MtM*100	225,000	semi-an	July '81 3
Baltimore and Ohio..100	14,792,566	semi-an	May '82 5
" " pref.100	5,000,000	semi-an	July '82 3
Washington Br....100	1,650,000	semi-an	Apl. '82 5
Berkshire*.....100	600,000	q'arterly	Apl. '82 1¼
Boston and Albany..100	20,000,000	q'arterly	June'82 2
Bos.&N.Y.AirLine pf.100	2,795,227	q'arterly	June'82 1
Bos.,Cl.,F.&N.B.pref.100	1,750,100	.....	Apl. '82 1½
Bos.,Conc.&Mont.pf*100	800,000	semi-an	May '82 2
Boston and Lowell..500	3,940,000	semi-an	Jan. '82 4
Boston and Maine...100	6,921,274	semi-an	May '82 4
Boston & Providence100	4,000,000	semi-an	May '82 3½
Attleborough Br...100	131,700	semi-an	Jan. '82 3½
Bos.,Revere B&Lynn100	419,400	semi-an	Jan. '82 3
Buffalo,N. Y. & Erie*.100	950,000	semi-an	June'82 3
Camden & Atlantic.. 50	377,400	q'arterly	Apl '80 3¤
" " pref. 50	880,650	q'arterly	Apl '80 3½¤
Camden & Burl. Co...100	381,925	semi-an	July '82 3
Canada Southern....100	15,000,000	.....	Feb. '81 2½
Cape May &Millville* 50	447,000	semi-an	June'81 3
Catawissa*..... 50	1,159,500	annual	Oct.'81 $1½
" pref..... 20	2,200,000	semi-an	May '82 3½
" new pref.. 50	1,000,000	semi-an	May '82 3½
Cayuga and Susq.*.. 50	589,110	semi-an	July '81 4½
Cedar Rapids&Mo.R*100	6,850,400	q'arterly	May '82 1½
" " pref.100	769,600	semi-an	Feb. '82 3½
Central of Georgia....100	7,500,000	semi-an	June '82 4
Central of New Jersey100	18,563,200	q'arterly	Apl. '76 2½
Central Ohio*..... 50	2,437,950	semi-an	Jan. '82 3
" pref.. 50	411,550	semi-an	Jan. '82 3
Central Pacific 100	59,275,500	semi-an	Feb. '82 3
Chemung*.....100	380,000	q'arterly	July '81 1½
Cheshire preferred ..100	2,155,300	semi-an	Jan. '82 1½
Chicago and Alton...100	11,181,741	semi-an	Mar. '82 4
" " pref 100	2,245,400	semi-an	Mar. '82 4
Chi., Burl. & Quincy.100	55,337,455	q'arterly	June'82 2
Chi., Iowa & Nebras*.100	3,916,200	semi-an	Jan. '82 4
Chi., Mil. & St. Paul.100	20,404,261	semi-an	Apl. '82 3½
" " pref 100	14,401,483	semi-an	Apl. '82 3½
Chi. & N. Western...100	14,988,257	semi-an	June'82 3½
" pref.100	21,525,353	q'arterly	June'82 2
Chi., R. I. & Pacific..100	41,960,000	q'arterly	May '82 1¾
Chi. and West Mich .100	6,151,000	semi-an	Feb. '82 2½
Chi.,St.P.,M.&O.pref.100	10,390,000	q'arterly	July '82 1¾
C., Ind., St. L. & Chi..100	6,000,000	q'arterly	Apl. '82 1¾
Cin., Sand. & Clev.pf. 50	429,037	semi-an	May '82 3
Clev. and Mahoning* 50	3,759,200	semi-an	Nov.'81 3½
Clev. and Pittsburg* 50	11,244,336	q'arterly	June'82 1¾
Columbus & Xenia*. 50	1,786,200	q'arterly	June'82 2
Colum.&HockingVal.100	2,500,200	semi-an	Aug.'81 208
Concord 50	1,500,000	semi-an	May '82 5
Concord and Ports.*.100	350,000	semi-an	Jan. '82 3½
Conn.& Passump.Riv100	2,244,400	semi-an	Feb. '82 3
Connecticut River ..100	2,100,000	semi-an	July '82 4
Cumberland Valley.. 50	1,292,950	q'arterly	Apl. '82 2½
" 1st pref 50	241,900	semi-an	Apl. '82 4
" 2d pref. 50	243,000	semi-an	Apl. '82 4
Danbury & Norwalk. 50	600,000	.....	Apl. '82 1½
Dayton and Mich.*.. 50	2,402,573	semi-an	Oct. '81 1¾
" " pref. 50	1,211,250	q'arterly	Oct. '81 2
Delaware*..... 25	1,468,940	semi-an	Jan. '82 3
Del. & Bound Brook*100	1,652,000	q'arterly	May '82 1¾
Del., Lack.& Western 50	26,200,000	q'arterly	Apl. '82 2
Denver & Rio Grande.100	29,160,000	q'arterly	Jan. '82 1½
Den.,South P. & Pac.100	3,500,000	.....	Aug.'80 4
Detroit, Lans. & Nor.100	1,825,600	semi-an	Aug.'80 2½
" " pref.100	2,503,380	semi-an	Feb. '82 3½
Dubuque&Sioux C'y*100	5,000,000	semi-an	Apl. '82 3
East Pennsylvania*., 50	1,709 550	semi-an	Jan. '82 3
East Mahanoy*..... 50	392,950	semi-an	Jan. '82 3
Eastern (N. H.).....100	492,500	semi-an	June'82 2½
Eel River.....100	3,000,000	q'arterly	June '82 $1
Elmira.Jef.&Canand*100	500,000	annual	Sep. '80 5
Elmira&Williamsp't* 50	500,000	semi-an	May '82 1½
" " pref. 50	500,000	semi-an	Jan. '82 3½
Erie and Pitsburg*.. 50	1,998,400	q'arterly	Dec. '81 1¾
Evansville & Terre H.100	100,000	semi-an	Nov.'81 2
Fitchburg.....100	4,500,000	semi-an	Jan. '82 3
F. & P. Marquette pf.100	6,500,000	semi-an	Jan. '82 3
Ft.W. & Jackson pref.100	2,000,000	.....	May '82 2
Georgia. ... .100	4,200,000	q'arterly	July '82 2½
Granite 100	1,250,000	semi-an	Jan. '82 3
Han. & St. Jo. pref .100	5,083,024	semi-an	Feb. '82 3½
Harrisbg&Lancaster 50	1,182,500	semi-an	Jan. '82 3½
Housatonic pref. ...100	1,180,000	q'arterly	Apl. '82 2
Illinois Central.....100	39,000,000	semi-an	Mar. '82 3½
Ia.Falls & Sioux City*100	4,623,500	q'arterly	June'82 1¾
Iowa R. Land Co...100	7,620,000	q'arterly	May '82 1
Jeffersonv. Mad.&Ind100	2,000,000	q'arterly	May '82 1¾
Joliet and Chicago*..100	1,500,000	q'arterly	June'82 1¾
Kan.C.,Ft.S.&Gulf...100	4,000,000	.....	Feb. '82 2
" " pref..100	2,750,000	semi-an	Feb. '82 4
Kentucky Central...100	500,000	semi-an	June'81 1
" " pref..100	5,583,500	semi-an	June'83 1
Lake Shore&Mich.So.100	49,466,500	q'arterly	May '82 2
" (guar.)100	533,500	semi-an	Feb. '82 5
Lawrence*..... 50	450,000	q'arterly	Apl. '82 2
Lehigh Valley..... 50	27,496,895	q'arterly	July'82 1½
" " pref. 50	106,300	q'arterly	July '82 1¾

Marked thus(*)are leased roads.	Stock out-standing.	Divide'd Periods.	Last Dividend Payable.
Little Miami..... 50	4,637)300	q'arterly	June'82 2
Little Rock & Ft. S..100	4,096,135	.....	July' 81 108
Little Schuylkill*.. . 50	2,646,100	semi-an.	Jan. '82 3½
Louisville & Nashv..100	19,130,913	semi-an.	Feb. '82 3
Lowell & Andover...100	500,000	semi-an.	Jan. '82 3½
Lykens Valley.....100	600,000	q'rterly.	Oct,' 81 2½
Manchester & Law..100	1,000,000	semi-an.	May '82 5
Manhattan 100	13,000,000	.....	.....
" " 1st pref.100	6,500,000	q'rterly.	July '82 1½
" " 2d pref.100	6,500,000	q'rterly.	July '82 1½
Marietta& Cincinnati 50	1,386,350	.....	.....
" " 1st pref 50	8,105,600	semi-an.	Sep. '66 3¤
" " 2d pref 50	4,440,000	semi-an.	Sep. '66 3¤
Marq.Hout.&Ont.pf...100	2,259 026	.....	Feb. '82 4
Massawippi*.....100	400,000	semi-an.	Feb. '82 3
Michigan Central....100	18,738,204	q'rterly.	Aug. '81 1
Middlesex Central...100	280,000	semi-an.	Feb.'82 3
Mill Creek&Minehill* 50	323,000	semi-an.	Jan. '82 5
M.Hill& Schuyl.Hav* 50	4,022,500	semi-an.	Jan. '82 3½
Missouri Pacific.....100	28,169,800	q'rterly.	July '82 1½
Mobile&Montgomery100	3,022,517	semi-an.	Feb. '80 2½
Mont. & Wells River100	800,000	annual	Feb. '80 2
Morris and Essex.... 50	15,000,000	semi-an.	July '82 3½
Mt Carbon&PtCarbon 50	282,350	semi-an.	Jan.. '82 6
Nashua and Lowell..100	800,000	semi-an.	May '82 4
Nashua & Rochester.100	1,305,800	semi-an.	Apl. '82 1½
Nashv. & Decatur...100	1,827,000	semi-an.	June'81 3
Nash.,Chat.&StLouis 25	6,670,325	semi-an.	Apl. '82 1½
Naugatuck.....100	2,000,000	semi-an.	Jan. '82 5
Nesquehoning Val'y* 50	1,300,000	semi-an.	Mar. '82 3
N.Castle&Beaver Val* 50	600,000	q'rterly.	Oct. '81 —
NewLondonNorth'n*100	1,500,000	q'rterly.	Jan. '82 1½
N. Y. Cen. & Hud. R.100	89,428,330	q'rterly.	July '82 2
N. Y. and Harlem....100	7,950,000	q'rterly.	July '82 4
" " pref.100	1,500,000	q'rterly.	July '82 4
" City Line.. —	.....	annual	Apl. '82 3
N.Y.,LakeErie&West.100	77,083,900	.....	.....
" " pref.100	8,156,825	.....	Jan. '82 6
N. Y., N. H. & Hart..100	15,500,000	semi-an.	Jan. '82 5
N. Y., Prov. & Boston100	3,000,000	q'rterly.	May '82 2
Niag.Bridg&Canand*100	1,000,000	semi-an.	July '81 3
North Carolina*.....100	3,000,000	semi-an.	Sep. '81 3
" " pref.100	1,000,000	semi-an.	Sep. '81 3
N. Eastern (S.C.) pref100	86,000	semi-an.	May '81 4
Norfolk & Western pref. 50	15,000,000	q'rterly.	June '82 $1
North Pennsylvania. 50	4,527,150	q'rterly.	May '82 1¾
Northern Central.... 50	6,142,000	semi-an.	Jan. '82 3
Northern N. Hampsh100	3,068,400	semi-an.	June'82 3
Northern N. Jersey*.100	1,000,000	semi-an.	July '80 2½
Norwich&Worcester*100	2,604,400	semi-an.	Jan. '82 5
Ohio 100	18,500,000	.....	.....
Ohio and Miss. pref..100	4,030,000	semi-an.	Mar.'75 3½
Old Colony.....100	7,333,800	semi-an.	July '82 3½
Oregon R'way&Nav..100	6,000,000	q'rterly.	May '82 2
Oswego & Syracuse..100	1,320,400	semi-an.	Aug.'81 4½
Panama..... 100	7,000,000	.....	July '82 6½
Paterson & Hudson*.100	630,000	semi-an.	Jan. '82 4
Paterson & Ramapo..100	248,000	semi-an,	Jan. '82 4
Pember.&Hightst'n*. 50	342,150	semi-an.	Jan. '82 3
Pennsylvania..... 50	77,672,750	semi-an.	May '82 4
Pennsylvania Co..... 50	20,000,000	semi-an.	June'81 2½
Peoria & Bureau Val*100	1,200,000	semi-an.	Feb. '82 4
Philadelphia & Erie*. 50	7,013,700	semi-an.	.....
" " pfd 50	2,400,000	semi-an.	Jan. '75 4
Phil,Ger. &Norrist'n* 50	2,231,900	q'rterly.	June'82 3
Phil. and Reading... 50	32,726,375	q'rterly.	Jan. '76 2½
" " pref. 50	1,551,800	q'rterly.	July '76 3½
Phila. and Trenton..100	1,259,100	q'rterly.	Apl. '82 2½
Phila., Wil. and Balt. 50	11,585,750	semi-an.	July '82 4
Pittsb.,Ft. W. & Chi.*100	29,714,285	q'rterly.	Apl. '82 1¾
" Special Imp.100	6,770,900	q'rterly.	Apl. '82 1¾
Pittsfield&N.Adams..100	450,000	semi-an.	Jan. '82 2½
Portl., Saco & Portsm100	1,500,000	semi-an.	Jan. '82 3
Providence &Worces.100	2,000,000	semi-an.	Jan. '82 3
Rensselaer&Saratog.*100	7,000,000	semi-an.	Jan. '82 4
Rhode Island& Mass..100	100,000	.....	Jan. '81 3
Richmond& Danv...100	3,866,000	q'rterly.	May '82 2
Richmond & Petersb100	1,009,300	semi-an.	Jan. '81 3
Roch.&Genesee Val.*100	555,200	semi-an.	Jan.'82 3
Rome, Watert.& Ogd.100	5,293,900	semi-an.	July '75 1½
Rutland preferred.. 100	4,000,000	semi-an.	Feb. '82 1
St.L.,Alt. & T.Haute.100	2,300,000	.....	.....
" " pref.100	2,468,406	.....	May '82 3
St.L.&S.Fran.1st pref100	4,500,000	.....	Feb.'82 3½
St.L.,I.Mt.&South'n.100	21,459,921	semi-an.	Feb. '74 3
St. P. & Duluth pref.100	4,705,000	q'rterly.	June'82 1¾
St. P., Minn. & Man..100	15,000,000	semi-an.	Aug.'82 3½
Schuylkill Valley*... 50	576,050	semi-an.	Jan. '82 2½
Seaboard & Roanoke.100	1,229,600	semi-an.	May '82 5
Shamokin V.&Pottsv 50	669,450	semi-an.	Feb.'82 3
Shore Line*.....100	1,000,000	semi-an.	Jan. '82 4
Sioux C.&Pacific pref100	169,000	semi-an.	Apl. '82 3½
South Br. (N. J.)*....100	438,300	semi-an.	Jan. '82 3
South Western (Ga.)*100	3,892,300	semi-an.	Dec. '81 3½
Stockbridge&Pitts.*.100	448,700	semi-an.	Oct. '81 1½
Summit Branch*.... 50	4,010,150	semi-an.	Feb. '76 3
Syr.,Bingham&N.Y.*100	2,500,000	semi-an.	Feb. '81 2
Terre Haute & Ind...100	1,988,150	semi-an.	Feb. '82 4
Troy and Boston....100	1,609,000	semi-an.	Feb. '80 2
Union Pacific. 100	61,000,000	q'rterly.	July '82 1¾
United Cos of N. J.*.100	20,490,000	q'rterly.	Apl. '82 2½
Utica, Shenango&S V100	4,000,000	semi-an.	Nov.'81 3
Utica and Black Riv.100	1,772,000	semi-an.	Mar.'82 2
Vermont and Mass...100	3,050,000	semi-an.	Apl. '82 3
Wab. St.L.& Pac.pref.100	22,615,100	q'rterly.	Nov.'81 1½

Markedthus(*)are leased roads.	Stock out-standing.	Divide'd Periods.	Last Dividen d Payable.
Ware River*.....100	750,000	semi-an.	Jan. '82 3½
Warren (N. J.).....100	1,800,000	semi-an.	Apl. '82 3½
Warwick Valley.....100	340,000	semi-an.	Jan. '82 2½
Westchest&Phil.pref100	821,300	semi-an.	July '80 2
West Jersey.....100	1,359,750	semi-an.	Apl. '83 3¤
Wilmingt'n&Weld'n.100	1,456,200	semi-an.	Dec. '81 3
Wil., Col., & Aug 100	960,000	semi-an.	Dec. '81 3
Winchester&Poto'c.*100	180,000	semi-an.	Jan. '82 3
Winchester&Strasb.*100	74,700	semi-an.	Jan. '82 3
Worcester & Nashua. 75	1,789,800	semi-an.	Jan. '82 1½
HORSE-POWER R. R.			
Albany City.....100	200,000	annual	..... '80 5½
Baltimore City..... 25	1,000,000	semi-an.	Jan. '82 4
Balt.,Cat.&El. Mills..100	....	semi-an.	Jan. '82 2
BleeckerSt.&Ful.F'y.100	900,000	semi-an.	July '81 ¾
Boston&Chelsea pref. 50	110,000	semi-an.	Apl. '82 3
Broadway (Brooklyn)100	250,000	q'arterly	Oct. '81 3
B'way&7th Av.(N.Y.)100	2,100,000	q'arterly	Oct. '81 2
B'klyn&Hunter's Pt.100	400,000	semi-an.	Apl. '79 3
Brooklyn City.....100	2,000,000	q'arterly	Dec.'81 3½
Bushwick (Brooklyn)100	300,000	semi-an.	July '81 2½
Cambridge.....100	908,000	q'arterly	Apl. '82 4½
Cen.Park,N.& E.Riv.100	1,800,000	q'rterly.	Jan. '82 2
Christoph'r&TenthSt100	650,000	semi-an.	Aug.'81 2½
Citizens' (Phil.)..... 50	192,500	q'rterly.	Jan. '82 2½
Citizens' (Pbg.)..... 50	200,000	annual..	....'80 14½
Coney Island&Bklyn100	500,000	semi-an.	Oct. '80 5
Continental (Phil.) .. 50	580,000	semi-an.	July '82 6
D.Dock,E.B'way&Bat100	1,200,000	q'arterly	Nov.'81 4
Eighth Av. (N. Y.)... 100	1,000,000	q'rterly.	Oct. '81 3
42d St. & G. St. Ferry100	747,000	semi-an.	Nov.'81 6
Frankf.&Southw (Ph) 50	600,000	q'rterly.	Jan. '82 6
Germantown, (Ph.).. 50	1,572,800	q'rterly.	Apl. '82 2½
Girard College (Ph.) . 50	500,000	semi-an.	July '71 3
Grand St. & Newton..100	170,091	semi-an.	July '81 2½
Green&Coates St.(Ph) 50	150,000	q'rterly.	Apl. '82 3
Heston,Mantau&F'm 50	299,381	semi-an.	Jan. '75 4
Highland.....100	600,000	semi-an.	Jan. '82 4
Lomb.&SouthSts(Ph) 25	195,000	semi-an.	Oct. '75 4
Lynn and Boston....100	200,000	semi-an.	May '82 4
Malden and Melrose.100	165,000	.....	..... .
Metropolitan (Bost.). 50	1,500,000	semi-an.	Jan. '82 4
Middlesex (Boston)...100	650,000	semi-an.	May '82 3½
N.Y.,Bay Ridge&Jam100	150,000	..... .	Oct. '78 7
Ninth Av. (N. Y.)....100	797,320	.....	.....
Orange &Newark....100	282,555	.....	....
People's (Phila.)..... 25	124,744	..... .	Apl. '82 2
Philadelphia City... 50	475,000	semi-an.	Jan. '82 5
Phila. and Darby.... 20	200,000	semi-an.	July '81 3½
Phila.&Grey's Ferry. 50	308,000	semi-an.	Jan. '82 6
Pbg.Alleg.&Manches. 50	300,000	q'rterly.	Oct. '81 3
Ridge Avenue (Ph.).. 50	420,000	semi-an.	Oct. '81 11
Second Avenue (N.Y.)100	1,199,500	semi-an.	July '81 2½
Second&ThirdSt.(Ph) 50	771,076	q'rterly.	Jan. '82 4½
17th &19th sts (Ph.).. 50	250,000	semi-an.	July '81 3
Sixth Avenue (N. Y.)100	750,000	semi-an.	Oct. '81 5
Somerville (Boston).100	113,000	semi-an.	May '82 3
South Boston..... 50	600,000	semi-an.	Jan. '82 4
Third Avenue, N. Y..100	2,000,000	q'rterly.	Nov.'81 5
13th and 15th sts.,Ph 50	334,529	q'rterly.	Jan. '82 4
23d street, N. Y.....100	600,000	semi-an.	Aug.'81 4
Union, Boston.....100	374,300	semi-an.	Jan. '82 4
Union, Phila..... 50	1,005,000	semi-an.	Jan. '82 7
West Philadelphia... 50	750,000	semi-an.	July '77 10
CANALS.			
Chesapeake and Dela 50	2,078,038	semi-an.	June'75 2
Delaware Division... 50	1,633,350	semi-an.	Feb. '82 $1
Delawa. and Hudson100	20,000,000	q'rterly.	June'82 1¾
Delaware & Raritan*.100	5,847,400	q'rterly.	Apl. '82 2½
Lehigh Coal and Nav 50	11,204,250	semi-an.	June'82 2
Monongahela Nav... 50	1,004,500	semi-an.	July '81 $2
Morris, consolidated.100	1,025,000	semi-an.	Feb. '81 2
" preferred....100	1,175,000	semi-an.	Feb. '81 5
Pennsylvania..... 50	4,501,200	.....	.....
Schuyl. Nav., com.*. 50	859,100	annual..	An. '81 50c.
" " pref... 50	3,200,000	annual..	Aug. '81 $1
MISCELLANEOUS.			
Adams Express.....100	12,000,000	q'rterly.	June'82 2
American Express... 50	18,000,000	semi-an.	July '82 3
Amoskeag Manuf.Co.100	3,000,000	semi-an.	June'81 5
Calumet&HeclaMin'g —	100,000 S.	q'rterly.	May '82 $5
Central Mining Co....100	.....	semi-an.	Feb. '82 2½
Consolidation Coal..100	10,250,000	semi-an.	Jan. '82 2
George's Creek C.&I.100	.....	semi-an.	Jan. '82 3
Maryland Coal.....100	4,400,000	semi-an.	Feb. '76 1½
Mariposa L. &Mining100	10,000,000	..... .	.....
" pref100	5,000,000	..... .	.....
Missouri Val.LandCo100	200,000	semi-an.	Jan. '82 7
National Tube Works100	1,000,000	q'rterly.	Apl. '82 3
Pac. Mail Steamship.100	20,000,000	q'rterly,	Sept.'69 3
Pennsylvania Coal... 50	5,000,000	q'rterly	May '82 3
Pullman Palace Car...100	10,032,800	q'rterly.	May '82 2
Quicksilver, com.....100	5,708,700	..... .	May '82 0.4
" pref.....100	4,291,300	..... .	May '82 6
Quincy Mining Co... 25	40,000 shs	semi-an.	Feb. '82 $8
Quincy R. R. Bridge..100	1,750,000	semi-an,	Jan. '82 5
SiouxC.&I.F.L.&L.Co100	500,000	semi-an.	June'82 4
Spring Mt. Coal.....100	1,500,000	semi-an.	June'82 3½
Topeka Equip'nt Co.100	255,500	semi-an.	Apl. '82 5
United States Ex....100	7,000,000	q'rterly.	May '82 1
Wells-Fargo & Co. Ex100	6,250,000	semi-an.	Jan. '82 4
Western Union Tel..100	80,000,000	q'rterly.	July '82 1½

RAILROAD EARNINGS.—MONTHLY.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Burl., Cedar Rap. & Northern:													
1880	184,316	165,170	188,325	141,652	149,504	153,378	143,432	160,160	179,804	204,991	189,330	193,419	2,053,484
1881	167,750	124,510	148,551	184,680	165,630	205,912	174,351	209,112	221,801	221,748	203,880	232,812	2,259,037
1882	252,823	225,631	224,107	178,304	199,278	.....	.....	.....	.....	.....	.....	.....	.....
Central Pacific:													
1880	1,200,614	1,070,487	1,373,438	1,356,716	1,778,488	1,724,950	1,840,067	1,973,438	1,964,997	1,120,229	2,199,466	1,905,221	20,508,112
1881	1,602,907	1,454,218	1,709,637	1,872,370	2,091,410	2,063,000	1,859,000	2,059,000	2,293,000	2,514,000	2,267,000	2,110,000	23,947,951
1882	1,876,000	1,702,000	1,987.000	2,052,000	2,353,000	.....	.....	.....	.....	.....	.....	.....	.....
Chesapeake and Ohio:													
1880	202,335	198,681	222,762	221,559	199,443	214,352	238,236	259,110	247,303	211,820	240,795	218,009	2,674,308
1881	162,540	184,389	228,479	227,343	252,235	241,135	225,096	262,858	247,144	237,303	235,585	203,562	2,702,762
1882	210,455	209,708	208,981	253,861	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chicago and Alton:													
1880	534,054	497,013	626,473	542,961	616,128	617,524	708,906	761,120	767,349	785,199	696,776	574,695	7,718,198
1881	487,890	461,641	529,915	558,190	548,556	616,935	671,466	771,466	768,897	750,359	680,133	635,307	7,553,988
1882	579,447	530,480	584,483	561,787	553,412	.....	.....	.....	.....	.....	.....	.....	.....
Chicago and Northwestern:													
1880	1,154,632	1,131,683	1,361,725	1,294,573	1,875,608	1,671,177	1,699,686	1,767,938	2,020,245	2,105,217	1,855,671	1,477,902	19,416,007
1881	1,240,667	963,208	1,178,795	1,474,612	1,879,006	2,306,640	1,983,031	2,315,164	2,292,676	2,341,097	2,019,037	1,855,476	21,849,209
1882	1,620,336	1,471,945	1,696,568	1,634,819	2,058,133	.....	.....	.....	.....	.....	.....	.....	.....
Chicago, Burlington and Quincy:													
1880	1,432,740	1,411,870	1,732,518	1,489,894	1,909,627	1,682,956	1,773,643	1,834,321	1,862,285	1,934,762	1,837,860	1,552,018	20,454,494
1881	1,307,948	1,034,821	1,418,149	1,574,371	1,679,455	2,083,803	1,888,558	2,173,945	2,262,981	2,031,001	1,816,133	1,905,490	21,324,150
1882	1,658,834	1,457,300	1,566,217	2,058,133	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chicago, Milwaukee and St. Paul:													
1880	764,298	738,749	900,675	871,041	1,134,745	1,037,958	1,026,708	991,297	1,257,677	1,493,620	1,472,037	1,397,308	13,086,119
1881	990,847	682,717	916,989	1,259,946	1,538,491	1,371,000	1,560,000	1,678,000	1,645,000	1,590,000	1,569,000	1,855,000	17,025,462
1882	1,435,000	1,377,000	1,561,000	1,518,090	1,629,000	.....	.....	.....	.....	.....	.....	.....	.....
Chicago, St. Paul, Minneapolis and Omaha:													
1880	193,827	173,078	259,783	259,208	232,146	218,093	236,995	251,013	300,833	342,052	342,894	312,173	3,122,097
1881	257,786	158,594	251,648	261,211	350,124	404,562	392,702	385,586	363,685	382,714	380,733	391,950	3,981,296
1882	307,498	315,100	405,779	356,558	406,420	.....	.....	.....	.....	.....	.....	.....	.....
Cincinnati, Indianapolis, St. Louis and Chicago:													
1880	155,697	172,541	198,220	168,199	186,995	200,332	204,138	233,478	343,627	239,881	209,014	198,254	2,412,185
1881	182,523	171,511	191,005	183,710	188,794	188,256	178,861	229,858	219,977	212,606	194,805	192,623	2,296,916
1882	200,042	186,879	208,066	204,269	.....	.....	.....	.....	.....	.....	.....	.....	.....
Denver and Rio Grande:													
1880	124,759	126,922	160,883	164,882	193,925	295,455	373,132	400,133	406,583	473,318	408,562	349,196	3,478,007
1881	307,476	317,681	398,493	433,111	514,767	584,230	548,284	606,193	620,643	665,686	566,819	643,417	6,206,812
1882	491,914	412,987	535,055	559,917	614,298	.....	.....	.....	.....	.....	.....	.....	.....
Hannibal and St. Joseph:													
1880	176,079	166,965	216,061	206,735	191,317	179,396	224,312	238,081	233,448	242,214	207,147	279,635	2,561,391
1881	154,401	122,874	176,356	190,812	172,950	194,949	198,110	215,308	202,567	313,433	201,782	180,376	2,230,966
1882	138,284	154,717	168,798	148,913	154,917	.....	.....	.....	.....	.....	.....	.....	.....
Illinois Central:													
1880	595,212	613,806	613,008	535,732	665,120	681,736	724,095	732,755	806,836	880,211	783,120	673,182	8,304,812
1881	631,281	524,499	557,789	662,493	673,259	803,887	720,004	868,407	828,847	815,238	737 218	763,475	8,586,397
1882	728,173	689,387	695,371	674,603	674,749	.....	.....	.....	.....	.....	.....	.....	.....
Indiana, Bloomington and Western:													
1880	80,498	89,690	116,185	90,374	85,733	106,954	103,438	116,732	110,622	121,343	96,621	104,619	1,233,079
1881	90,283	83,261	192,085	203,677	200,064	96,586	83,764	117,956	195,307	181,674	160,826	156,697	.....
1882	195,824	175,755	206,235	205,934	182,554	.....	.....	.....	.....	.....	.....	.....	.....
Louisville and Nashville:													
1880	674,455	575,035	612,593	563,883	655,014	976,229	772,537	827,088	931,910	1,000,326	953,086	949,184	9,491,346
1881	816,960	805,124	947,959	850,862	828,726	1,227,885	817,135	876,192	951,566	1,002,950	1,065,223	1,122,285	11,326,859
1882	950,065	960,036	1,073,745	950,007	946,435	.....	.....	.....	.....	.....	.....	.....	.....
Mobile and Ohio:													
1880	250,116	204,094	168,301	140,091	129,249	121,855	131,621	140,593	184,246	264,714	251,368	287,373	2,373,621
1881	224,347	216,768	230,916	163,551	145,803	136,517	131,009	159,348	209,044	252,921	252,434	262,025	2,406,437
1882	161,433	158,154	152,651	145,272	137,645	.....	.....	.....	.....	.....	.....	.....	.....
Nashville, Chattanooga and St. Louis:													
1880	205,633	191,154	169,457	155,466	158,839	144,155	151,594	169,326	167,473	178,266	182,087	175,996	2,049,448
1881	178,143	190,866	207,710	183,525	104,430	154,549	150,430	168,317	179,979	172,121	152,059	173,127	2,075,256
1882	156,994	159,961	161,005	154,155	137,645	.....	.....	.....	.....	.....	.....	.....	.....
New York and New England:													
1880	164,232	149,907	183,845	179,689	183,701	219,891	205,056	249,885	235,642	215,491	210,856	198,108	2,396,302
1881	189,749	173,614	212,019	216,913	217,185	231,518	246,821	280,524	299,573	261,199	242,412	237,729	2,809,255
1882	213,840	217,261	256,222	263,544	283,244	.....	.....	.....	.....	.....	.....	.....	.....
New York, Lake Erie and Western:													
1879	1,147,173	1,207,391	1,356,780	1,372,755	1,350,574	1,230,419	1,273,533	1,450,223	1,492,497	1,713,697	1,515,835	1,398,224	16,509,127
1880	1,296,381	1,252,218	1,644,958	1,643,151	1,592,544	1,661,812	1,580,976	1,606,874	1,786,417	1,899,910	1,799,338	1,726,788	19,149,361
1881	1,443,437	1,425,765	1,847,261	1,709,057	1,776,891	1,794,982	1,787,081	1,772,895	1,734,200	.....	.....	.....	.....
Northern Central:													
1880	334,494	330,860	415,325	386,130	329,788	419,193	450,298	453,923	464,093	512,918	459,054	494,310	5,050,387
1881	386,157	382,657	452,906	487,273	465,588	487,287	440,811	498,008	429,565	449,664	487,160	476,622	5,443,697
1882	407,368	413,551	430,194	435,129	.....	.....	.....	.....	.....	.....	.....	.....	.....
Northern Pacific:													
1880	81,390	77,259	119,357	185,700	217,613	253,105	241,277	223,500	330,300	358,456	300,822	220,993	2,629,710
1881	116,508	78,803	162,984	216,210	312,705	368,276	404,180	411,624	490,096	565,485	428,903	434,331	4,044,576
1882	239,800	269,000	384,000	438,000	568,332	.....	.....	.....	.....	.....	.....	.....	.....
Philadelphia and Erie:													
1880	224,307	245,372	327,678	334,947	311,470	331,024	308,699	347,532	322,737	367,082	324,966	281,919	3,727,733
1881	224,303	225,501	285,573	293,323	343,792	350,585	291,669	303,849	276,522	292,392	284,078	282,772	3,454,309
1882	252,727	246,246	265,311	277,851	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. Louis and San Francisco:													
1880	198,091	195,948	193,146	176,164	167,664	173,607	213,297	259,995	280,873	328,194	290,329	226,063	2,698,371
1881	212,435	178,234	262,050	265,298	283,399	260,254	252,333	286,373	279,064	308,569	284,320	287,914	3,160,245
1882	256,784	244,654	274,959	242,806	253,419	.....	.....	.....	.....	.....	.....	.....	.....
St. Louis, Alton and Terre Haute:													
1880	153,139	163,737	168,994	155,462	147,928	150,207	191,077	216,759	204,295	221,863	188,773	184,503	2,146,741
1881	175,725	166,012	201,137	197,447	172,177	165,896	158,674	189,295	187 299	179,921	162,544	153,852	2,112,801
1882	168,987	149,619	178,145	157,450	162,842	.....	.....	.....	.....	.....	.....	.....	.....
St. Louis, Iron Mountain and Southern:													
1880	555,983	490,195	451,560	408,241	349,053	363,454	432,655	565,869	671,219	688,365	632,052	656,951	6,265,597
1881	570,957	560,791	704,002	548,300	479,075	474,302	533,512	644,386	690,400	719,239	687,280	709 498	7,319,744
1882	516,370	501,127	585,008	581,977	519,120	.....	.....	.....	.....	.....	.....	.....	.....
St. Paul, Minneapolis and Manitoba:													
1880	180,239	137,645	261,798	333,014	281,899	243,407	272,089	232,579	274,188	345,057	300,675	297,641	3,160,231
1881	254,187	159,482	320,962	425,685	382,642	405,322	387,488	414,954	485,736	605,708	508,530	528,262	4,878,960
1882	395,461	418.358	531,004	570,890	858'902	.....	.....	.....	.....	.....	.....	.....	.....
Texas and Pacific:													
1880	245,785	219,165	215,070	174,177	141,083	153,066	195,711	226,073	266,570	303,666	312,184	301,858	2,754,408
1881	281,176	260,781	319,928	295,066	281,782	264,204	320,466	354,082	337,117	578,668	357,724	381,218	3,921,569
1882	310,785	255,644	332,911	359,543	409,228	.....	.....	.....	.....	.....	.....	.....	.....
Union Pacific Railway:													
1880	1,433,636	1,393,992	1,730,509	1,937,220	2,027,269	1,928,528	1,934,215	1,913.035	2,270,179	2,707,860	2,251.148	1,869,335	23,448,445
1881	1,339,799	1,374,740	1,674,860	1,766,894	2,319,238	2,590,969	2,528,826	2,638,659	2,844.357	3,289 350	2,773,608	2,267,004	27,451,831
1882	1,961,088	1.759,863	2,226,832	2,462,004	2,491,590	.....	.....	.....	.....	.....	.....	.....	.....
Wabash, St. Louis and Pacific:													
1880	776,790	759,451	978,629	892,024	948,773	953,468	1,966,742	1,189,478	1,178,950	1,501,203	1,131,787	1,050,816	12,428,112
1881	811,617	818,922	1,121,592	1,023,482	1,144,660	1,308,993	1,131,752	1,542,838	1,490,027	1,396,300	1,399,555	1,328,278	14,461,570
1882	1,229,965	1,134,768	1,315,776	1,378,194	1,204,864	.....	.....	.....	.....	.....	.....	.....	.....

Automatic Freight Car Brakes.

THE *Railway Register* a few months ago, in commenting upon the pressing need of a practicable invention for giving a freight engineer the control of his train, speaks as follows:

"Improved platforms and couplers, air and vacuum brakes, electric signals, paper wheels, safety switches, etc. permit increased speed with greater safety to passenger trains, while heavier steel rails, better ballasted road beds, lessened gradients, and more powerful locomotives reduce the cost per ton per mile of moving freight trains. This latter cost will be still further very materially lessened as soon as a thoroughly practicable, independent, self-acting, automatic freight-train brake shall have come into general use.

"Not only will the cost of moving freight be lessened, but the immense losses by wrecks be greatly reduced by such an appliance. But it must be one that shall meet the requirements of railway freight management, namely, simplicity, durability and cheapness, not only of first cost, but of cost of maintenance and repairs.

"What railway men want to-day is an automatic devise in the form of a brake for freight trains, which shall produce the greatest results with the fewest number of pieces, which, by reason of its simplicity, shall require the minimum amount of care and attention, which shall be in all respects automatic and requiring no other connection between the cars than the ordinary link and pin to make it effective and at all times operative. * * * * * This is the problem to be solved. How near are we to its solution? Every morning paper which we take up, with its record of loss of property and life, tells how badly such an improvement is wanted. Every railway manager is anxious to make his present freight equipment earn a greater income by shortening up the schedule of his freight trains, provided he could do it with any show for safety."

This problem seems to have been solved by a surgeon connected with the Chicago, Rock Island and Pacific Railway. Having his attention constantly directed to the danger to life and limb from the present system of applying brakes on freight trains, and also to the unreliability of the appliances in use to check a heavy freight train, moving at even a moderate speed, when suddenly confronted with danger, he devised and patented a very simple apparatus, which appears to meet satisfactorily all the requirements mentioned in the above extract, and which can be easily attached to any car, and adapted to the ordinary brake-beams.

With this appliance, any car can be switched in or out, and the cars mixed up in every possible way either end forwards, without any attention whatever to the brake machinery, or the necessity of fastening or unfastening other than the ordinary coupling link and pin, and when the train is "made up" and ready to start, everything is in order to enable the engineer to apply the brakes promptly to every car in the longest train, whether going ahead or backing. Not only so, but the conductor can do the same from the caboose, or from any car in the train; an arrangement which might be of great benefit in the event of some contingency arising, unobserved by the engineer, or when the latter has for cogent reasons deserted his engine.

The brake is entirely mechanical, employing neither a vacuum, compressed air, nor electricity. The apparatus on each car is complete in itself and can be operated by hand, if necessary, more easily than the ordinary brake, and yet when the cars having this attachment are made up into a train in the usual way with only the ordinary link and pin to couple them together, each one forms part of a connected system which can be put in operation from any portion of it. Brakemen can be entirely dispensed with. The mechanism is quite simple and compact, occupies but little space, and can be constructed as strongly and substantially as may be required to meet the roughest usage of railway freight service.

The principles involved in its operation are not by any means new nor untried, the same method, substantially, having been very successfully employed on the Northern Railway of France, with this essential and important difference that in that case electricity was used to bring the mechanism into operation and to transmit the power from car to car. In this brake, the mechanical means devised to bring about the same effect are new, original and simple.

The objections to the use of electricity are many and weighty—chief among which are the trouble and expense incident to the maintenance and care of a battery in some part of the train, and the absolute necessity of keeping up perfect electrical communications between every car, a single defect at any point rendering the whole system utterly useless. It is chiefly for these reasons, as being incompatible with the exigencies of freight service, that a plan, otherwise of great value, has never been adopted. This brake entirely overcomes these objections and others of less moment, but retains whatever is of value in the French device, and introduces some original features, which render it more reliable and uniform in its operation.

In other respects, however, it depends upon essentially the same mechanical principles as have been before mentioned.

The effectiveness of these principles may be judged from the following extract from the *Scientific American* (July 10, 1880): "During the experiments made with this brake on the Northern Railway of France, a train of thirteen cars, with a speed of forty-five and a half miles per hour was stopped in twenty-one seconds and within a distance of seven hundred and five feet."

We wish to call attention to this brake, feeling assured that when its merits are known and appreciated, it will be speedily adopted by many of the leading railroad companies.

The inventor is desirous of negotiating with some manufacturing company for its manufacture and introduction, or of forming a new company especially for that purpose. We believe that it will prove to be a good investment and take pleasure in referring those interested to the patentee himself, Dr. W. C. Schultze, Surgeon Chicago, Rock Island and Pacific Railway, Marengo, Iowa County, Iowa.

THE advantage of low grades for heavy traffic is shown in the fact that an engine that will move a given load on a level track will move but one-half the load on a grade of 21 feet to the mile; one-third the load on a grade of 42 feet to the mile; one-fourth the load on a grade of 63 feet to the mile; one-fifth on a grade of 84 feet to the mile; one-sixth on a grade of 105 feet to the mile.

THE deepest mine in the world, according to Professor H. Hœfer, of the Academie Imperiale des Mines, is the Pribrand silver mine, in Bohemia. The lowest depth is 3,300 feet below the surface. At this depth the temperature of the rocks is only 75.90 degrees F., and the temperature of the air, according to the same authority, 76.3 degrees F., so that up to the present only natural ventilation has been required.

NEWPORT NEWS, Virginia, promises to become the leading coaling port on the Chesapeake for steamers sailing from the South. The Chesapeake and Ohio Railroad Company has commenced the shipment of coal from Newport News, and the steamers sailing from Galveston, New Orleans, Port Royal and other principal points are only compelled to take on sufficient coal to last them to Hampton Roads, where they find much lower prices than at the extreme Southern ports, and every facility for loading.

THE new ferry boat "Chicago," built by the Harlan and Hollingsworth Company, of Wilmington, Del., for the Pennsylvania Railroad Company, to ply between New York and Jersey City, was launched on the 13th inst., at 10:25 o'clock. Captain Woolsey, superintendent of the Ferry Company, Captain Robert Bloomsburg, assistant superintendent, and Joseph Wilson, superintendent of the Construction of Floating Equipments, were present and expressed themselves well satisfied with the boat. Captain Woolsey christened the "Chicago."

A MOVEMENT is on foot for constructing a railway across Australia, but the difficulty is the arid nature of the center of that large island. There are good reasons for believing that, at all events, sufficient water is to be had by sinking wells; for, although there is none visible, it is a fact that gum-trees flourish, and there is abundance of scrub which must obtain water somehow. It is known that the underlying rock is an almost level bed of sandstone, which is believed to be saturated with water; for rivers are known which lose themselves in the waterless plain, and never reach the sea.

IT has been noticed that the gases from the furnaces in iron districts are very injurious to the trees in the neighborhood. Investigation points to the presence of sulphurous acid in the gases as the chief enemy to vegetation. The leaves absorb this gas and either die or cause the death of the branch from which they hang, and sometimes that of the whole tree. Strong-looking trees naturally resist the insiduous attacks of the gas longer than sickly trees, and deciduous ones, especially the oak, much better than pines and other coniferous trees. The inference is that especial attention should be given to the cultivation of the oak in mining districts.

The Coal Trade.

THE leading coal-carrying companies make the following reports of their tonnage for the week ending June 3d, and for the year to that date, compared with their respective amounts carried to the same time last year:—

	Week.	1882.	1881.
Reading Railroad	104,144	3,608,600	3,528,034
Schuylkill Canal	6,095	122,208	115,820
Lehigh Valley	82,391	2,778,354	2,633,231
Delaware, Lackawanna and Western	66,264	1,586,830	1,629,954
Shamokin	19,544	384,389	421,495
Central R. R. of New Jersey	125,787	1,555,302	1,569,197
United R. R. of New Jersey	23,250	653,023	634,993
Pennsylvania Coal	21,663	433,687	469,076
Delaware and Hudson Canal	53,500	1,222,628	1,390,417
Huntingdon and Broad Top Mountain	5,662	195,871	189,005
Penn. and New York	17,950	689,153	668,128
Clearfield, Pa.	57,157	1,239,364	985,967

The total tonnage of anthracite coal from all the regions for the week ending June 3, as reported by the several carrying companies, amounted to 411,198 tons, against 638,306 tons in the corresponding week last year, a decrease of 227,108 tons. The total amount of anthracite mined for the year is 10,164,811 tons, against 10,472,943 tons for the same period last year, a decrease of 308,132 tons. The quantity of bituminous coal sent to market for the week amounted to 120,444 tons, against 94,375 tons in the corresponding week last year, an increase of 26,079 tons. The total amount of bituminous mined for the year is 1,877,150 tons, against 1,994,372 tons for the corresponding period last year, a decrease of 117,222 tons. The total tonnage of all kinds of coal for the week is 531,642 tons, against 732,681 tons in corresponding week last year, a decrease of 201,039 tons, and the total tonnage for the coal year is 12,041,961 tons, against 12,467,315 tons to same date last year, a decrease of 425,354 tons. The quantity of coal and coke carried over the Pennsylvania Railroad for the week ending June 3d was 197,265 tons, of which 146,050 tons were coal and 50,315 tons coke. The total tonnage for the year thus far has been 4,661,728 tons, of which 3,352,653 tons were coal and 1,309,075 tons coke. These figures embrace all the coal and coke carried over the road, east and west. The shipments of bituminous coal from the mines of the Cumberland coal region for the week ending June 3, were 5,918 tons, and for the year to that date 497,856 tons, a decrease of 276,882 tons as compared with the corresponding period of last year. The shipments were: To the Baltimore and Ohio Railroad—For the week, 5,818 tons; year, 414,517 tons, a decrease as compared with 1881, 162,292 tons. Pennsylvania Railroad—week, none; year, 74,842 tons; decrease as compared with 1881, 3,809 tons. Chesapeake and Ohio Canal—week, 100 tons; year, 4,658 tons; a decrease as compared with 1881, 114,520 tons. The Reading Railroad shipment for last week, ending June 10, was about 158,500 tons, of which 32,000 tons were sent to and 45,500 tons shipped from Port Richmond, and 14,600 tons sent to and 12,900 shipped from Elizabethport.—*Philadelphia Ledger, June 12.*

BOOK NOTICES.

"Sly Ballades in Harvard China" is the taking title of the next humorous *Vers de Societe*, soon to be published by A. Williams & Co., Boston, who are bringing out a line of books this season. The "Sly Ballades" is to be illustrated by Lambert Hollis, and in style the book will be quite unique, with flexible covers decorated in delicate colors like the famous Paris art amateur series so highly prized by connoisseurs. The writer is anonymous—as usual nowadays—but he is known as one of the foremost of the band of clever young writers whose productions, as shown in "The Little Tin Gods on Wheels," and "Rollo's Tour to Cambridge," have given them no small amount of fame and pocket money.

MISS SALLIE P. MCLEAN, of Simsbury, author of "Cape Cod Folks," has been considerably annoyed by the insinuations of some of the critics that she is the author of "A Reverend Idol," an anonymous novel recently out. Miss McLean is not the author of the work and knows nothing about its authorship.

Novel Stoking Apparatus.

MESSRS. WILLIAM MILLER & Co., of Glasgow, Scotland, are now manufacturing a new stoking apparatus, the principle of which is somewhat novel, and has the advantage of preventing smoke, effecting at the same time a great saving in fuel. The machine, as constructed for boilers, is driven by steam power, and by a simple arrangement is self-acting, and requires little attention. It consists of a box placed on rails or pivots, and provided with a movable bottom. After the box is charged it is moved underneath the bars of the furnace, at the same time pushing along a movable part of the furnace bars. When directly underneath the aperture thus created, the action of the machine raises the green fuel into the fire, so that both the smoke and gas from the fresh material pass through the mass of red coal, and are consumed. So far from this dampening the fire, it rather increases the heat-producing power of the coal, and allows it to become coked. The withdrawal of the box brings back the movable portion of the furnace bars, and the fire thus made up is always red on the top, and maintains a uniform heat. The opening of the furnace door is, moreover, rendered unnecessary, preventing the admission of cold air into the fire, and the work of the fireman is made more comfortable. The apparatus has also been applied to kitchen ranges, in which case the appliance is worked by hand. The fire is perfectly under control, and a bright, clear flame is at all times maintained. The saving of fuel is calculated to be about 20 per cent, in addition to the other advantages gained by the use of the apparatus.

Fishing by Electricity.

A FRENCH yachting paper gives some description of the new apparatus which is being used with the permission of the government of that country for fishing by electricity at night. It consists of a globe of glass, within which the electric light is shown. Two conductors incased in gutta percha are arranged so as to meet one another on the inside, very much on the same principle which is now familiar to all visitors to the Crystal Palace. They communicate with a fishing-boat anchored at a convenient distance, and can, of course, be set into activity by the occupants of the boat. As to the globe, it is attached to a weight below and a float above, so that it can be raised or lowered to the desired depth. As soon as the carbons are ignited and the glass in proper position, all the sea in its vicinity is illuminated brilliantly, and the fish, over whom light is well known to exercise an irresistible influence at night, come eagerly, and sometimes in large schools, within the rays. They may be seen from above disporting themselves in the unaccustomed brightness, and little dreaming of the sinister purpose with which the little *fete* is organized for them. It is then that other fishing-boats, armed with nets, come up and set to work at the unconscious victims, which they surround as well as they can without interfering with the apparatus connected with the lighted globe. It may be supposed that this device is calculated to operate with much deadly effect whenever it is used; and there seems to be much doubt whether it will be allowed as a recognized kind of fishing within territorial waters. Indeed, the license granted by the government is said to be merely provisional, and for the purpose of testing the new machine.—*London Globe.*

Chicago, Burlington and Quincy Railroad.

THE following circular has been issued by the Chairman of the Board of Directors of the Chicago, Burlington and Quincy Railroad Company to the stockholders, giving full particulars regarding the new issue of stock and what caused it to be made:—

"In carrying out the general policy of protecting the territory contiguous to our line, and providing a system of branches for the same out of roads which might otherwise have become competitors, your directors have now obtained full control and the substantial ownership of the following properties: The Chicago and Iowa railroad, extending from Aurora to Rockford and Forreston, about 104 miles; the St. Louis, Keokuk and Northwestern Railroad and its adjunct, extending from Mt. Pleasant, Ia., to St. Peters, Mo., a distance of about 184 miles.

"In pursuance of the same general policy, the following roads are now under construction: The Humeston and Shenandoah Railroad (this is owned in common with the Wabash, St. Louis and Pacific Railway Company), one-half of about 100 miles in length; the Joliet, Rockford and Northern Railroad, a link connecting three of our Illinois lines, of about 24 miles in length; the Ottumwa and Kirkville Railroad, a short coal road in Iowa of about 10 miles.

"The acquirement and construction of these properties have involved a cash outlay of over $6,500,000. In view of this expenditure your directors have deemed it proper and expedient for the company to exercise the power to increase its capital stock conferred by its charter, the authority to do which was prospectively confided to its directors at a meeting of the company held on the 24th of March, 1880. Your directors have therefore voted to cause such increase to be made to the amount of 10 per cent of the number of shares on record June 30, 1882, and to offer the same in the first instance to the shareholders of the company.

"The opportunity is therefore offered to the stockholders of record June 30, 1882, to subscribe to an issue of stock at par equal in amount to one-tenth of their respective holdings; that is to say, the privilege of subscribing to one share of stock at par will attach to ten shares of Chicago, Burlington and Quincy Railroad Company's stock. The books of the company will close June 30, 1882, and remain closed until July. The right to subscribe will expire July 31, 1882.

"The subscriptions to this issue of new stock will be due on the 9th of September, 1882, and the stock deliverable on that date or any day up to November 18, 1882."

ADVERTISE

—IN THE—

AMERICAN Railroad Journal. ESTABLISHED 1831.

We give below a few extracts from opinions of the press :—

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Editor American Railroad Journal.

In your issue of June 3d, in an article on the "Heating and Lighting of Railroad Cars" the types make me say that the "steam as it issues forcibly from the cylinders, is made to answer the purpose of a 'steam-chest' to the furnace fires." "Steam blast" were the words intended. Very truly,

W. C. S.

Marengo, Iowa, June 9th, 1882.

BUSINESS NOTICES.

Machinery wipers, woven like honeycomb are now used for cleaning machinery. When soiled they are quickly cleaned with a soap powder specially made for this fabric. The reasonable price, $30 per M., brings them within the reach of all who take pride in having neat shops. They are slowly but surely taking the place of *waste*. Brown Manufacturing Co., 8 Thomas St., N. Y., are the only makers.

Scales and Testing-Machines.

These important articles are coming into more general use every year, and nearly every kind of material that, as it passes from the manufacturer and seller to the buyer, is subjected to the closest test, either chemically or physically; and then, if up to the required standard, the quantity ordered is determined by weight. Both of the above mechanical appliances are extensively manufactured at the Philadelphia Scale and Testing Machine Works, Messrs. Riehle Brothers, proprietors. This firm was the first in this country to establish a regular business of testing-machines, and make all kinds, from a tiny one that will test the smallest specimen to a monstrous, and yet sensitive and accurate, piece of mechanism that can apply a tensile, transverse, or crushing strain of 1,000,000 pounds and over. The scales and testing-machines are found in almost all the leading iron and steel works in the United States, such as the Cambria Iron Company, Bethlehem Iron Works, Pennsylvania Steel Works, Allentown Rolling Mill Company, Logan Iron and Steel Company, Graff, Bennett & Co., Park Brothers & Co., Trenton Iron and Steel Company, and very many others. Among the railroads that use Riehle Brothers' scales and testing-machines are the Pennsylvania, Baltimore and Ohio, Philadelphia and Reading, Northern Pacific, Chicago, St. Louis and New Orleans, and others. The first scales made in the United States were made by the predecessors of this firm for the Lehigh Navigation Company, for use in their freight depots on Willow street, Philadelphia. Other firms have laid claim to the honor of originating the first platform scale, but their claims have been proven to be false, as there are those yet living who took part in this matter. From a small beginning, the Philadelphia Scale and Testing-Machine Works have become one of the leading establishments of the kind in Philadelphia and in the United States.

The Ohio Central Railroad Company has secured the right of way from Corning, Ohio, to Charleston, West Virginia, and considerable grading has already been done. At Charleston, the extension will connect with the Chesapeake and Ohio Railway.

W. F. Tureeff, Master Mechanic of the Cleveland, Columbus, Cincinnati and Indianapolis Railway, after making experimental tests, has adopted malleable iron draw-bars for all new cars, having found that they can be made with half the weight of cast iron, and that they will probably do better service. Already about fifty cars have been equipped with them.

There is still much uneasiness felt by the various steamship companies because of the small amount of freight offered for foreign export. So restricted is the demand for cargo room that the rates for freight continue so low that there is little profit in handling it. The Mediterranean and New York steamship and the Anchor lines are doing better in this respect than most of the others at present, as the 13,000 hogsheads of Kentucky tobacco recently purchased for the Italian Government factories are being rapidly shipped to various ports in Italy. The Mediterranean and New York line has taken about 4,000 hogsheads, and room has been chartered for an additional large quantity. The Anchor and other lines to the Mediterranean have taken about 3,000 hogsheads.

The Pullman Palace Car Company have recently received orders from the New York, West Shore and Buffalo Railroad Company for sixty first-class and twenty second-class passenger coaches, twenty-one mail and baggage cars, and one hundred box cars; from the Chicago and Atlantic Railroad Company, for thirty first-class and ten second class-class coaches, and twenty baggage, mail and smoking cars; and from the St. Louis and San Francisco Railroad Company, for twelve first-class passenger cars. These will be ready for delivery in about two weeks. Twenty first-class passenger cars are being built for the New York, Lake Erie and Western Railroad Company, five of which have been delivered during the past week. The company is also building one hundred and thirty Pullman palace cars for their own use. These cars are being built at the Chicago works. The following cars have recently been completed there and delivered to the different roads: Ten first-class, ten second-class and six baggage cars for the Toledo, Cincinnati and St. Louis Railway; two day coaches and six passenger cars for the Chicago and Eastern Illinois Railroad; and seven first-class passenger coaches for the Chicago, St. Paul and Minneapolis Railroad. Eight Pullman palace cars are finished and ready for shipment to Europe.

The Coming Transit of Venus from a Scientific Standpoint.

The great importance of the coming transit of the 6th December, in the estimate of the men of science, may be seen in the preparations now being made for its observation. Forty expeditions to witness it are already projected, and the number will be largely increased by those of the United States, Italy and Austria, which have not yet been announced. The French Government will send eight expeditions to the following points: Four in north latitude and four in south latitude. In the north the stations chosen are the coast of Florida, under the charge of Col. Perrier; Cuba, under M. d'Abbadie; the coast of Mexico, under M. Bouquet de la Grye; Martinique, an island of the French Antilles, under M. Tisserand. In the south the stations chosen are Santiago, in Chili, under M. Leclerc; Santa Cruz, a river of Patagonia, under M. Fleuriais; Rio Negro, the northern boundary of Patagonia, under M. Perrotin; and Port Desire or Chubutt, also in Patagonia, under M. Hatt. The members of all the expeditions are now preparing for their work at the observatory in Paris, where by means of a model Venus and a model sun they are practicing on imaginary transits in hopes of being able to observe with scientific accuracy the passage of the real Venus over the real sun in December. They will start for their destinations in the month of July and spend the intervening time after their arrival in diligent preparation for the event.

The object of this great expenditure of time, labor, money and brains is the hope that the observers may determine with an accuracy never before attained the earth's distance from the sun. For this is the unit of celestial measurement, and as long as the doubt concerning its accuracy exists, so long there is doubt in the estimate of celestial distances. But a cloudy day will render months of unremitting labor of no avail. It is estimated that the weather at half the stations will be unfavorable, but a great deal may be learned from the observations made at the other half, where the favorable conditions prevail, according to the law of averages. The four southern stations of the French expedition are in the south temperate zone, and the 6th of December will be near their summer solstice, like the 6th of June at the north. The localities favored with a clear sky on this meridian at the time of the transit will be specially fortunate, for the short winter days are not hopeful in their conditions. A transit of Venus is not a glorious phenomenon like a total solar eclipse. It is simply the passage of a round black ball over the sun's bright face. But it is visible all over our western world, and no human eye that now looks upward to the stars will ever again behold its recurrence. It is the last chance for trying this method of estimating the sun's distance until the advent of the year 2004.—*Providence Journal, May* 31.

The Oil City *Derrick* says the three new wells in the Warren field are producing more oil than the 400 or 500 wells in the other districts of the same county.

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Electricity and Magnetism.

F. N. Gisborne, Superintendent of Dominion Telegraphs, in a recent conversation with a representative of this paper, expressed himself as being highly gratified with the success of the coast line and gulf telegraph system, which was established under his direct supervision. The method of signalling by semaphores between mainland telegraph stations and lighthouses on exposed situations among the breakers, which forms an important part of that system, is Mr. Gisborne's invention, and he has lately perfected an application of the semaphore method to signalling between ships and the shore, which cannot fail to be of great advantage to commerce and the fisheries.

The coast line telegraph is likely soon to be extended along the coast of Labrador and the north side of the St. Lawrence, an inhospitable region, whose sparse population is wholly composed of fisherman, and, mayhap, a few trappers and lumbermen as you come west. Besides the great advantage this extension will prove to the prosecution of the fisheries in the waters of those coasts, it will also enable ocean steamships coming through the Straits of Belle Isle to hold communication with all parts of this continent when five days out from British ports, thus to a large extent limiting at least the tedium of the ocean passage to that period.

Mr. Gisborne, who contests upon strong grounds with Cyrus W. Field, of New York, the honor of being the originator of ocean telegraphy, is the central spirit, as he is the projector of a circumterraneous telegraphic system passing through the Dominion of Canada, and connecting our western shore with the eastern coasts of Japan, while from the latter a branch line will include Australia in the electrical compact. Of this vast project more is likely to be heard within a very few days.

Not finding the gentleman above referred to at the hotel on calling, but seeing one having a striking resemblance to him in some features, the reporter accosted him and found himself in the presence of John S. Gisborne, C. E., of Manchester, England, who proved to be no less affable and cordial a gentleman than his brother, the Superintendent of Dominion Telegraphs.

This gentleman, after some conversation about his brother's official operations, revealed himself as the inventor of a most timely improvement upon the mariner's compass, which is likely to create a revolution in ocean voyaging second only to that resulting from the adoption of iron vessels. This invention, called "John S. Gisborne's Compass for Iron Ships," and secured by royal letters patent, occupied the best attention of the inventor for fifteen years, and the royal patent was only signed, sealed and delivered last fall.

One of the greatest difficulties met with in the navigation of iron ships is the ever present liability of the magnetic needle of the compass to become demoralized from the attraction of the iron. The method in vogue to counteract this influence has been what is technically known as "swinging" the ship, a very tedious operation that consists of placing the ship due north and south and then fastening permanent magnets of great power so as to neutralize the metallic attraction. The ship must be "swung" in smooth water and fine weather; but thick weather having a different effect from bright upon the magnets, the process does not give absolute accuracy to the compass, and ships have to be supplied with "a card of error" whereby to rectify the fluctuations of the needle.

It is well known that to errors of reckoning from variations in the compass, which cannot be corrected when the sun is invisible for days together, is due the loss annually of large numbers of ships. The permanent magnets used by compass adjusters, even, frequently are the cause of the errors leading to disaster, exercising, as stated, a different influence upon the needle as the air is dry or damp.

Mr. Gisborne claims for his invention that it is not influenced by local attraction, and that it never requires any adjustment further than for the carpenter to fasten it down to the deck of the ship. This claim is supported by certificates from the captains of several British iron ships who have tested the new compass, by different shipowners, and by Dr. T. Byron Whitehead, a gentleman who says he has passed more time on board iron ships than most of his profession, who took a special trip in the steamship Lady Olive to observe the conduct of the compass, and "on that occasion narrowly watched its working night and day on all the various courses which the ship was steered;" and the combined verdict of all these competent jurors is "unqualified success." Mr. Gisborne's compass is now being tested upon the steamship Parisian, and the result in this case will likely soon be known to our readers. The commercial manufacture of the company has not yet been begun. The inventor came across in the Parisian, and the results of his observations of the working of the compass were thoroughly satisfactory to him. John S. Gisborne is not a man of one invention, for there is scarcely a first-class British steamship on the seas which is not furnished with some appliances produced by his ingenuity, and he is known in nearly every shipyard in Great Britain and the continent.—*Montreal Witness.*

Proposing a Bridge Twenty-three Miles Long.

In a few days England will receive the visit of a highly intelligent foreigner who will have in his pocket a wonderful picture of a bridge across the channel between Folkstone and Cape Grisnez. Its twenty-three miles of length will exhibit many varieties of style. Some parts will be tubular, some iron framework open to the sky, and some again viaducts of masonry. Beneath these you will see (in the picture) ships in full sail—"Great Admirals" bearing the Queen's flag gliding proudly under the central arches, and tiny fishing-boats making their way with equal ease through the lower doorway in the shallows. The arches will rest sometimes on the sea bottom, sometimes on an artificial foundation of loose stone, or on a couple of submarine islands which Nature has most obligingly placed in this very spot as a hint of her views on the question of communication between England and France. M. Verard de Sainte-Anne is the apostle of this new idea of intercommunication, and his scheme is the alternative to the tunnel. The tunnel is altogether out of the question. It would be very costly in any case; and no one knows what soft places in the chalk the boring might not reveal. Then who could breathe down there? Unbroken railway communication with England, he says, alone stands between France and commercial ruin. Bismarck, far more dangerous in peace than even in war, has been quietly plotting a sort of commercial Sedan to block France off forever from all share of the English trade. England with her immense commerce binds the eastern and Western hemispheres as a main link. France continues the chain, but Bismarck is determined to cut her out of it for the benefit of Berlin. The French Chambers have made a patriotic but useless attempt to meet this competition by voting immense sums for the improvement of Boulogne, Calais and Dunkirk. They might just as well have thrown the money into the sea. The Dutch and Belgian ports—above all, Flushing—will always afford better land communication with Odessa. Berlin in fact lies directly on the line of the best existing route. Now the commercial command of the east of Europe means the ultimate command of Asia, and this, with a due regard to America on the other side, means the commercial command of the world. France, though, must build much more than the bridge, according to M. Verard de Sainte-Anne. She must not only run a direct railway line from England to avoid the shipment which is the sole disadvantage of the German route, but as soon as the line touched Paris she must carry it almost due east, avoiding Lyons and almost every city south of the capital, and run a neck-and-neck race with Germany "in the straight" for Constantinople via Trieste. This line, it will be seen, would leave even Brindisi far to the west. It would be as short as the German one, shorter than it for many places, and where it was not it would still secure the preference of English exporters, by preventing the loss involved in transfer.—*Paris Cor. London News.*

Niagara.

The greatest cataract in the world is that of Niagara. The Horseshoe fall on the Canadian side has a perpendicular descent of 158 feet. The height of the American fall is 167 feet. The Horseshoe fall, which carries a larger volume of water than the American fall, is about 600 yards wide, and extends from the Canadian shore to Goat Island. Geologists are agreed that the cataract was once six miles nearer to Lake Ontario than at present. Although Niagara is certainly the greatest cataract, it is by no means the highest. The Yosemite fall in California surpasses all other cataracts on the globe in height. It is formed by Yosemite Creek, which is an affluent of the Merced River. The average width of the stream in summer is about twenty feet and its depth about two feet. From the edge of the cliff, from which the water plunges, to the bottom of the valley, the vertical distance is about 2,550 feet; but the fall is not in one perpendicular sheet.

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[Robert W. Welch, in the Century.]

(CONCLUDED FROM LAST WEEK.)

No MACHINERY of any kind is used in the Carrara quarries. The men of to-day quarry after the fashion of their grandfathers. A common hand-drill, a few jugs of nitric acid, and a plentiful supply of gunpowder complete the outfit of the marble-miners. Slowly and painfully the drill is forced into the mountain-side to the necessary depth; into the hole made by the drill the nitric acid is poured through a tin tube; and when the acid has penetrated every crevice leading from the base to the drill-hole, and has eaten space for the gunpowder, the charge is placed, the slow-match is lighted, the quarrymen betake themselves to places of safety, and in due course of time there is an explosion. After the explosion the quarrymen come back to ascertain the result. It frequently happens that they find nothing as a reward for their labor except a quantity of small rocks. Having blasted the marble out from the mountain, the producer's next step is to put the available blocks into tolerably regular shapes. This is done with the chisel and hammer, by men who receive from twenty-five to thirty-five cents a day. Very large blocks are divided by sawing. The marble-saw is a piece of heavy sheet-iron, four or five inches wide, fixed in a cumbrous buck-saw frame, and it is worked by two men. The saw is made to cut by putting sand beneath the blade, the sand being carried down into the saw-path by a small stream of water trickling from a tub. Working from sunrise to sunset, marble-sawyers can earn as much as thirty-five or forty cents.

When the marble has been squared up it is still a hundred feet, sometimes half a mile, up in the air. It is the custom to lower it with enormous cables. The block to be lowered is put upon a sledge composed of two timbers bolted fast together, and sledge and marble are slowly and laboriously lowered down the mountain-side, pieces of wood rubbed with soap being placed under the sledge in places where the descent is not steep. Sometimes the ropes break, the block escapes from the workmen, and a terrible accident ensues. Carrara is full of cripples, the victims of such accidents.

Occasionally the quarrymen are saved the trouble of lowering the marble. It not infrequently happens that the blast is so strong that the detached pieces do not stop at the quarry landing, but go tumbling to the foot of the mountain. A few days ago, in one of the ravines, I saw a block of marble weighing at least two thousand tons, which, when it was blasted, had slid over a thousand feet from the quarry. In blasting this block the miners were very careful in the use of powder, in the hope that the block would not be driven from the mountain with sufficient force to set it rolling. Fortunately, their calculations were well made. When the blast was fired the block fell forward upon its face, and slid a comparatively short distance down the mountain-side. A very little more powder would have sent it rolling to the bottom of the ravine, and the consequences might have been very serious.

In one of the ravines, it happens perhaps a dozen times a day that workmen and visitors are obliged to take to their heels to escape destruction by some bowlder that has started down-hill. If one could take a safe position and witness the descent of a two-thousand-ton block of marble, the spectacle would be a grand one. But to be chased out of the ravine by this same bowlder would be an altogether different experience. Nothing can be more terrifying than to be in the track of one of these rocks, with hardly a second to spare in which to choose the path of flight. You hear the tooting of a horn, which is a signal that in a few minutes a blast will be set off. Casting your eye about the ravine, you discover that the blast is to be made in a quarry perhaps two thousand feet above you. Anticipating no danger, you keep on calmly crunching your lunch. (Everybody who visits the quarries is supposed to have a lunch with him.) Presently the explosion takes place, and you look up in the direction of the sound. At first you see nothing. A second later, an enormous rock comes bounding out from one of the recesses of the ravine. You fancy that the rock will come to a stop at a certain point which you have marked with your eye, when you are startled by the cries of a hundred quarrymen, and almost at the same time by a sound which, if you have had experience in the quarries, tells you that the bowlder is already dangerously near you. You give one glance at the approaching danger and run for your life, praying as you run. Your flight is to the side of the ravine, and just as you reach a place of safety the bowlder goes thundering past, enveloped in a cloud of dust, and hurling about on all sides fragments of itself and of the rocks which it crushes in its path.

In old times, all of the marble quarried at Carrara was transported from the quarries by oxen. That intended for consumption at Carrara was taken over the rough mountain road a distance of from three to five miles, while that intended for shipment was hauled five miles farther to the sea-shore. The railroad has superseded the wagon service to a large extent, but there are still hundreds of oxen engaged in carting marble from remote quarries to the railroad, and from all of the quarries to the saw-mills and studios which are not reached by the railroad. Tourists invariably leave Carrara with the belief that the Carrara teamsters are the most cruel men in the world, and to this belief the writer gives his full adherence. The work which the oxen do would be hard enough under the most favorable circumstances, for the roads are indescribably rough. But the circumstances are not favorable for the poor brutes. They are under-fed and over-loaded, and upon the road are subjected to the most outrageous cruelty. There may be a dozen pairs of oxen attached to the cart. Twelve brutal men, each armed with a heavy goad, are in attendance. The drivers of the eleven leading pairs ordinarily ride, each man seated on the yoke of his own pair, facing the cart, and steadying himself by a hand on the horn of one of the oxen. From the time the team starts from the quarries until it leaves its load there is no cessation of cruelty. It is not to be wondered at that the life of an ox terminates ordinarily within three years of the day on which he makes his first journey to the quarries.

Carrara laborers, and especially those who are engaged in quarrying and transporting marble, certainly have a very hard time of it. Like the oxen, they work much and eat little. For a day's work, beginning at sunrise and lasting to sunset, the compensation is not more than forty-five cents. It seems almost impossible that a single man can live on such wages, to say nothing of men who count their children by fives, tens and twenties. Some of the quarrymen live five or six miles from the scene of their labor, and they have, therefore, in addition to a day of severe toil, to take a daily walk of ten or twelve miles. Many of them are obliged to leave their beds at three o'clock in the morning in order to reach the quarries in season to do a full day's work. They take with them in their coat or trowsers pocket the food for the day, which consists of a small loaf of bread. When they return home at night they eat the principal meal of the day, a dish of boiled mush, or a sort of soup made of bread, water and oil. In the summer they are able to garnish their tables with a dish of vegetables, into which the aromatic garlic is sure to be strongly infused. Meat and fish are luxuries which are indulged in on rare occasions. Most of the marble intended for export is taken to the sea-shore, five miles away, and is unloaded from the cars or ox-wagons upon the sandy beach. Thousands of blocks of marble are to be seen at this depot, each block bearing the initials of its owner and the number by which it is recorded in the owner's books. Here the final preparation for shipment is made. The work of squaring or shaping the block, which was begun at the quarries, is completed here, and the edges of the blocks receive what might be called a "rough smoothing." This done, Carrara having no good harbor, the marble is put into small vessels and sent to Leghorn or Genoa for shipment to foreign ports.

SCENE.—A small lawn on Seneca street, Cleveland. Time—noon. Personages—A parrot sunning itself on a porch beside its open cage-door; and a strange dog wandering upon the lawn. The parrot speaks first: "Sick! Sick! Sick him!" The dog, with ears and tail erect, looks about for something upon which to charge; he espies the parrot, and an exciting scene ensues. From out the confused mass of dog-hair and parrot-feathers comes the shrill cry, "Git out! git out!" Dog breaks for street. Parrot, after looking at herself from head to foot, gravely exclaims: "Polly, you talk too much!"

THE marked feature of ancient bridge building was the thickness of the piers. The famous old bridge at Verona had a pier 39 feet thick, though only 11 feet high. In old London Bridge the piers were so enormously thick that the available waterway at low water was rather less than one-fourth of the width of the river spanned by the bridge. The London *Builder* thinks that the modern tendency is to make the piers too light. Of late years no country in Europe has seen more remarkable bridge work than Italy. Signor Mosca's bridge over the Dora, at Turin, is a masterpiece of construction.

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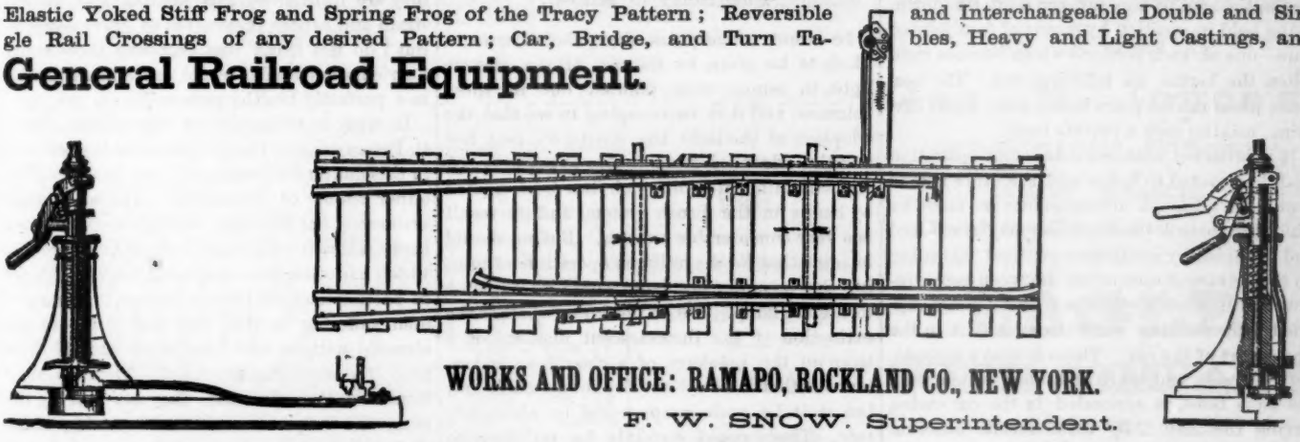

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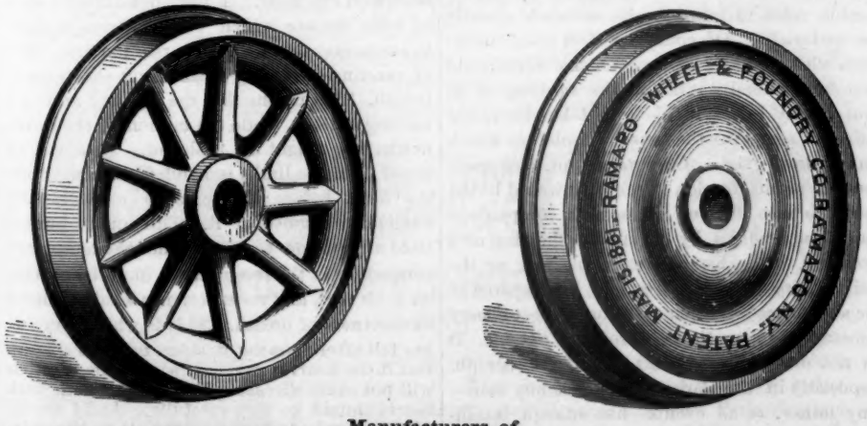

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The Clark Combination Car.

Inasmuch as the "Clark Combination Car," invented by the actor, George Clarke, seems destined at no far distant day to supersede both the Pullman and Wagner sleepers for comfort and convenience in making long railroad journeys, a description of it may not prove uninteresting. In appearance it is, of course, similar to the present sleepers, but it is in its interior that the difference becomes so apparent. During the day the "Clark Combination Car" is an open "parlor," furnished with large easy-chairs, which may be turned to suit the convenience of the occupants. Being situated two feet from the windows, passengers are thoroughly protected from draughts.

At night partitions are drawn from either end of the car through its centre to within two feet and six inches of each other. This opening forms a passageway from one side of the car to the other. These partitions divide the car, and are securely locked at one end. The chairs are then opened out. The headboards of cabinet-work, which close the upper berths, are lowered and form a division between the sections. The upper berths, which are carried in the roof of the car, are then let down, being held in position by means of four jointed bars—one at each corner—which become rigid when the berths are fully lowered. The sections when made up are hung with light curtains, making each a private berth.

It is intended that one side of the partition shall be devoted to ladies and the other side to gentlemen although arrangements are made by which the space devoted to ladies may be reduced and occupied by gentlemen without intruding on the privacy of each other. Between each window and in each section is a wash bowl supplied with running water from a tank in the upper part of the car. There is also a receptacle for towels, and brush and comb, which, with the wash bowl, is concealed in the car casing during the day. By these means absolute privacy is given to each section, and passengers may dress, undress and arrange their toilets free from intrusion. The curtain cornices on the inside are provided with hooks on which may be hung the clothing of the passengers, where they will be preserved from creases.

After passengers have retired, the porter passes through the car, restoring the window curtains to their proper position, thus allowing a free passage through each side of the car. In the morning, before passengers rise, the window curtains are turned to the berths, the wash bowls and toilet lowered, so that on arising passengers find themselves in a private stateroom.

Each section is provided with electric bells to summon the porter when wanted.

At one end of the car are the usual closets and additional washstands and a bathroom. At the opposite end is a smoking-room supplied with sofas and easy-chairs.

Also, the science of ventilation has been thoroughly studied and is as perfect as can be obtained, provision being made for the introduction of fresh air into the car and to the bedding and for forcing the foul air out of the car. The bedding is kept fresh and cool during the day, and offers a wholesome place for the passenger to rest.

Apart from the comforts secured to the passengers by these new devices, the removal of all weight from the sides to the center of the car commends itself to the owners of rolling-stock, as the wear and tear on the springs and running gear is equalized and materially reduced by bringing all the weight directly on the bearings, securing a steady and even motion to the car.

By doing away with the heavy framed seats and bulky upper berths, and by the use of metal frame-work in the skeleton of the car, much of the cumbrous material used in the present car is done away with, and the weight greatly reduced, thus lessening the cost of construction. It will be seen at a glance that this car does away with all the objectionable features of the Pullman; and if the inventor can succeed in getting it introduced as it should be, it will serve the doubly good purpose of furnishing additional comforts to travel and cutting off the source of revenue from which the avaricious Pullman Company have fed and grown fat.—*Pittsburgh Chronicle.*

Electricity in Mines.

It is now some years since the advantages likely to be given by the use of the electric light in mines were pointed out in these columns, and it is encouraging to see that the adoption of the light has, during the past few months, advanced from theory to practice. A rocksalt mine at Northwich has been lighted by lamps on the Brush system, and the result is a very considerable success. But we should imagine that for the ordinary operations of mining the incandescent lamp would be superior to the arc lamp. We do not know whether the extinction of the incandescent filament of a lamp on the breakage of a glass is so instantaneous that it would not fire inflammable gas, but if it be, such lamps would be absolutely safe. There could certainly be no opening them for forbidden purposes. The distribution of the wires should not be an insurmountable difficulty. The telephone is another electrical instrument calculated to be of considerable value in mines, quite as much morally as materially. Of course, perfect communication with all parts of an extensive mine could not but generally assist in the working of it; but hardly less valuable would be the moral effect of removing the sense of isolation which must now exist. One needs no very great powers of imagination to see what would be the boon to men shut off from their companions and from daylight by the sudden flooding of a working, or perhaps by an explosion, or the fall of a roof, if the wires had been spared to be able to describe their position and get cheery messages of hope through from the outside. It is not everybody who can work a telegraph, especially in the dark; but almost any man—any miner, at all events—has enough intelligence to work a telephone. We cannot doubt that, within a very few years, electricity will have helped greatly to alleviate the hard lot of all underground workers. And certainly no class of men deserve more consideration than they.—*London Evening Standard.*

Dangers of Going Upstairs Rapidly.

Every morning thousands of busy men issue hurriedly from up-town houses and betake themselves to the nearest elevated railway stations. It usually happens when a man is in an especial hurry that a train comes along just as he reaches the foot of the stairs. Therefore he runs hastily up the long flight and plunges into the train panting and with his heart beating like a triphammer. This experience is daily repeated on so large a scale in this city, as to excite the question whether this incessant running upstairs to catch trains might not be a more potent and more general factor in inducing heart-disease than has ever been supposed. On this point the views of some prominent physicians have been obtained. Dr. Alonzo Clark said:—

"There is undoubtedly a connection. The bane of our American life is its ceaseless hurry, which induces nervous diseases, and cannot exert a favorable influence upon the action of the heart. And this especial matter of hurrying up the stairs to catch trains is one that daily affects thousands of men, some of whom have hearts that are not sound. Therefore, they are injured by this sudden and violent strain and expose themselves to grave dangers. But I do not think that climbing these stairs hurriedly twice a day would cause heart trouble in a perfectly healthy person."

In reply to an inquiry on this subject, Dr. J. C. Peters said: "The greatest care is necessary in this matter for people with any heart trouble, either latent or developed. There certainly are among our business and professional men many afflicted with some form of heart trouble which has often been induced by severe attacks of rheumatism or kidney disease. I know of men suffering in this way who drive to the elevated stations and have a servant aid them in slowly ascending the stairs. Then on their return in the afternoon, they are met by the man, who helps them down the stairs, where the carriage is in waiting. Others we forbid to go up or down stairs, and for this reason some have had elevators put in their houses, and others turn a back parlor into a bedroom, so as to live on one floor. I have not known a case of heart disease which was attributable alone to ascending stairs. Of course, the first effect of running or rapidly ascending is shortness of breath. That means that the legs and arms are moving quickly, while the motion of the heart, not having caught up, is slower. So a load of blood from the limbs is suddenly thrown upon the heart before it begins to move rapidly enough to dispose of it. This undue burden suddenly put on the heart, and the temporary congestion in the lungs, cause imperfect action on their part, and we experience what is known as shortness of breath. This is what every one has felt after running upstairs to catch a train. But if the heart is perfectly sound this exertion will not cause disease. But persons with weak hearts should go very carefully. And I should advise everybody to ascend the stairs leisurely, and miss a train rather than rush up and make themselves at least uncomfortable."—*N. Y. Tribune.*

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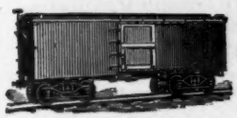

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Cultivating the Cork Oak.

In the "cork tree," that species of oak whose elastic bark is of so much practical value in the manufacture of the familiar stoppers to the millions of bottles and jars in which it is becoming more and more the custom to preserve all kinds of eatables and drinkables, many of our colonies might find a profitable object of agriculture. The cork harvest in Spain, which, with France, Portugal and Italy, is the principal source whence we derive our supplies, is becoming every year more scanty, owing to the greed of growers, who have injured the stock of trees by stripping them of their bark too frequently. The tree which produces the most valuable cork does not come to maturity for a quarter of a century, and can only be barked to advantage every eight or ten years; but the temptation to make rapid profits has been too great to withstand, and the result has been the injury or ruin of many plantations. Some of the quick-growing varieties produce an inferior, porous kind of corks, but the best are the slowest of growth. England alone imports some 10,000 tons of cork per annum, and the quantity is yearly increasing, notwithstanding the introduction of many substitutes for corks, such as plugs of wood, whose fibres have been specially softened for the purpose, india rubber and other contrivances. The French Government, seeing the desirability of securing as large a share of this trade as possible, have for several years past given special encouragement to the formation of plantations of the cork oak in Algeria, and the same thing will, no doubt, be done in Tunis; but the tree will grow equally well in India, Central America, the West Indies, many parts of Africa and Australia, and in the South Sea Islands, and planters in our possessions there might lay the foundation of a profitable industry by introducing some of these trees and starting their systematic cultivation. The tree, besides being a most valuable one and easily cultivated, is of magnificent growth, and would form an ornament in any landscape.—*Colonies and India.*

Steel Production in Staffordshire.

This week the first experiments for converting South Staffordshire common pig iron into steel have been successfully accomplished. After the metal had gone through the Bessemer process it was rolled into bars of steel. One of these has been put under heavy sledge hammers and doubled up without breaking. Others have been broken and re-welded and bent over the weld without showing a sign of fracture. The test is regarded as highly satisfactory, and favorable opinions were expressed on samples of the steel exhibited at the Wolverhampton iron market yesterday. Further experiments are to be made at the Patent Shaft and Axletree Company's works, Wednesbury, where the success has been achieved. A Wolverhampton correspondent writes: "The promoters of the scheme for the conversion of South Staffordshire common pig iron into steel are very sanguine, in view of the results already obtained. Competent authorities assert that the steel is equal to the best Yorkshire iron for ductibility, tenacity, fusibility, and welding. It will be very suitable for boiler plates, tees and angles, and the cost will be only about half that of iron. With the quality and cheapness of the raw materials at hand, South Staffordshire is looked upon as likely to again take the lead in the iron and steel trades of the kingdom. Experiments will also be made with best Staffordshire pigs."—*London Railway Times.*

An Industrious Glacier.

The glacier chiefly responsible for the numerous icebergs which have invaded the highway of ocean travel this season, is on the coast of Greenland, in latitude 60 deg. 12 min., and is known as the great glacier of Jacobshavn. It was explored in 1879 and 1880, by Lieutenant Hammer, by direction of the Danish Government, which numbers Greenland among its possessions. The exploration was accomplished with the greatest difficulty. The main stream of the great glacier was inaccessible on account of the rugged and dangerous character of the country. The glacier discharges its mountainous masses of ice through a fiord into Disco Bay. The region back of the terminal of the glacier is one mass of ice, which lies in a heavy cap over the entire region. The face of the glacier where it rests in the sea is three miles broad and two hundred feet above the water. This glacier is the largest and most prolific on the Greenland coast. The great success of this glacier in launching icebergs is owing to the very rapid rate of motion in the central portion. The rate of motion was determined by triangulation, and amounted to sixty feet in twenty-four hours. This rapid movement would permit the breaking away of an enormous berg every two weeks at least. This rapid motion is undoubtedly caused by the enormous pressure of the superincumbent ice in the interior. The Swiss glaciers travel only a few inches in twenty-four hours, and are very tame affairs beside the great glacier of Jacobshavn.

The Subdivision of the Electric Light.

W. H. Preece, the well-known English electrician, in a letter to the London *Times*, says: "There is a great confusion between the problem of the subdivision of the electric 'light' and that of the distribution of the electric 'current.' They are two totally different questions, which are generally mistaken for each other. If a given current, say that equivalent to one horse power, will give a light say of 2,000 candles, you cannot by any known means divide that light into 20 lamps of 100-candle power each. The best that has hitherto been done from one horse power is to obtain eight lamps of 16-candle power each. You can, however, distribute the current in any way you please. If one horse power will give you one lamp of 2,000-candle power, or eight lamps of 16-candle power, it is evident that two horse power will give you two lamps of 2,000-candle power and 16 small lamps; three horse power, three lamps of 2,000-candle power or 24 small ones, and so on, directly by multiplication and distribution. Mr. Brush has shown how to multiply his lamps, and Mr. Edison has shown how to distribute his currents and multiply his lights; but no one has as yet attempted to solve the question of the subdivision of the electric light. The largest machine yet made, that of Edison's, will maintain 1,200 incandescent lamps giving 16-candle power each, or a total light of 192,000 candles, with an expenditure of 150 horse power. Such a power applied directly to the production of light ought to give a light of many million candles."

The construction of the Mississippi Valley Railroad is to be commenced at once. It is expected to reach Baton Rouge by the new year.

A geologist, who has just completed an investigation of the mineral deposits along the line of the Selma, Rome and Dalton Railroad, between Rome, Georgia, and Calera, Alabama, reports that there is more brown hematite iron ore contiguous to this road than can be found in any other iron field in the United States.

In 1873 patents were issued by the Department of the Interior at Washington to the Northern Pacific Railroad Company, for over 700,000 acres of land in Minnesota, the cost of surveying which was over $26,000. At the time these patents were issued the fact was overlooked that a prior act had provided the cost of surveying, selecting and conveying lands must be paid by the railroad company before the patent was issued. The cost in this case not having been demanded of the company by the Government before patenting, the company afterwards refused to pay them. The Secretary has just decided that said expenses must be paid by the railroad company, and has directed the Commissioner of the General Land Office to certify no further lands to the Northern Pacific Railroad Company until such fees are paid, not only on any lands the patent for which may be hereafter asked, but also on those heretofore patented to that company.

Peach Prospects.—The Wilmington (Del.) *Star* says that despite the peach scare of April, peach prospects are splendid. The customary June fall has not yet set in, and the branches of many trees are already bending beneath the weight of fruit. The question with some growers is not one of enough, but of too much fruit. On the trees of many orchards there are six times as many young peaches as can be matured of fair size. They even hang in knots, and the trees of the Hale variety were never known to be so full. Trees that a month since seemed to have scarcely any fruit upon them now appear to have sufficient for a crop, and the prospect in Sussex county is much better than it was reported three weeks since. Some orchards, indeed, will have little fruit. The frost destroyed, in certain sections, the blossoms most advanced, and in other orchards the trees have too little vitality to produce much fruit. The laden trees will soon shed the surplus of fruit they cannot mature, and this dropping will likely call forth, as it usually does, gloomy forebodings from growers. At present there is small doubt that the Peninsula will this year have one of its largest crops of peaches, and one as great as any with the exception of the summer of 1875. A few growers are already purchasing baskets extensively at seven cents each. A few parties in the vicinity of Milford offer to sell the entire product of their orchards at forty cents per basket, but there are no buyers yet.